



1

High-Efficiency Gas

Frymaster

Brad Rowe
bradley.rowe@frymaster.com
1. Hours 8-5
2. Lunch 12-1
3. Breaks
4. Smoking area
5. Restrooms
6. Phones
7. Questionnaire

2

2

High-Efficiency Gas

Frymaster

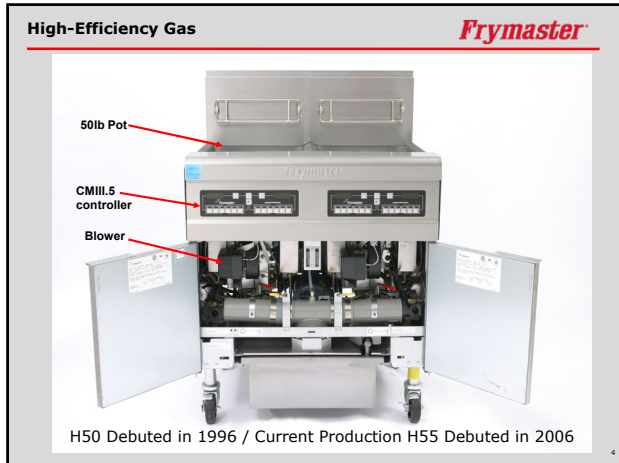
Year Fryer Was Built **Month Fryer Was Built** **Family Model** **Production Sequence**

S/N 24 07 ID 0106

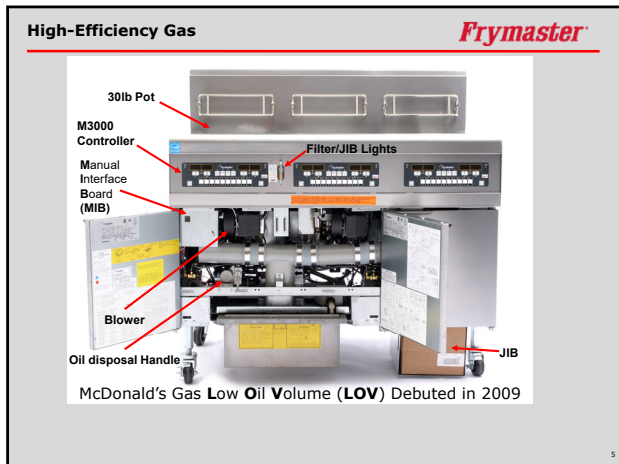
TRM 1-2

3

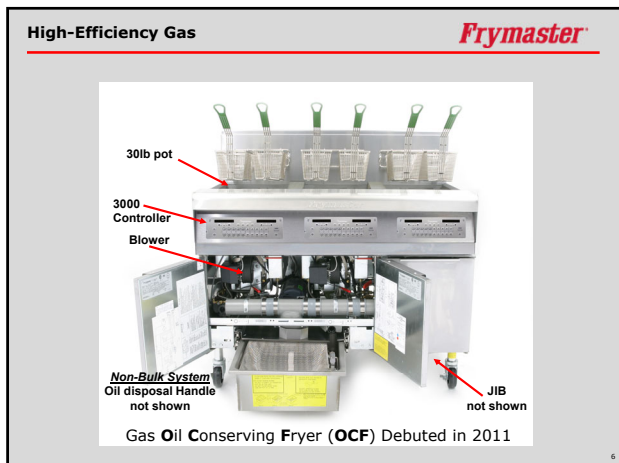
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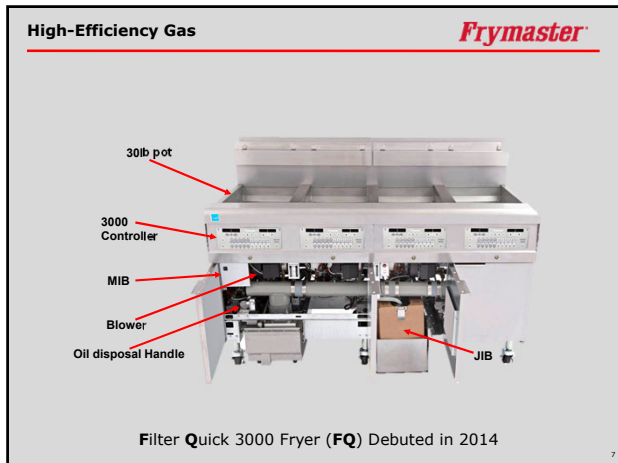
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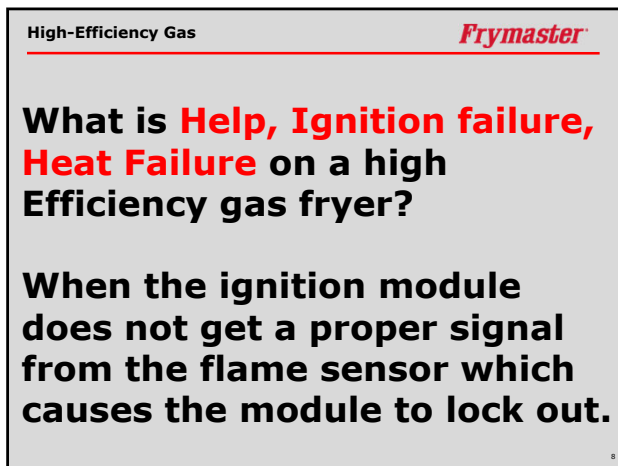
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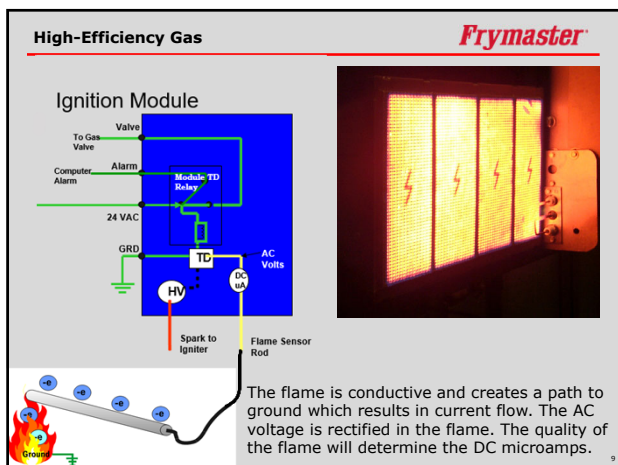
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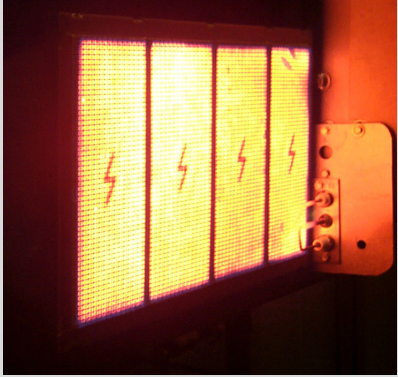
High-Efficiency Gas *Frymaster*

The ceramics of the burner should glow orange after a minute of operation.

A blue burner is an indication of a gas/air mixture problem.

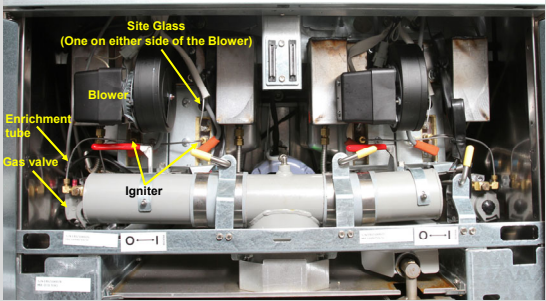
An adjustment to the blower shutter can improve the flame.

The quality of the flame will directly affect flame current.



10

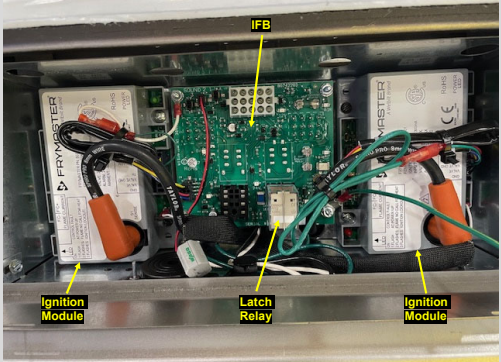
High-Efficiency Gas *Frymaster*



H55

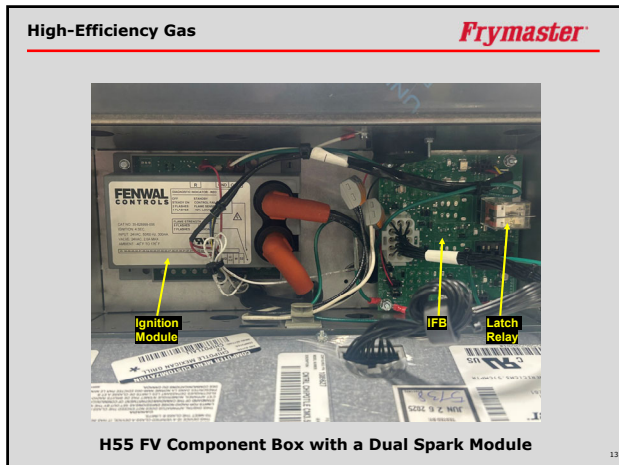
11

High-Efficiency Gas *Frymaster*

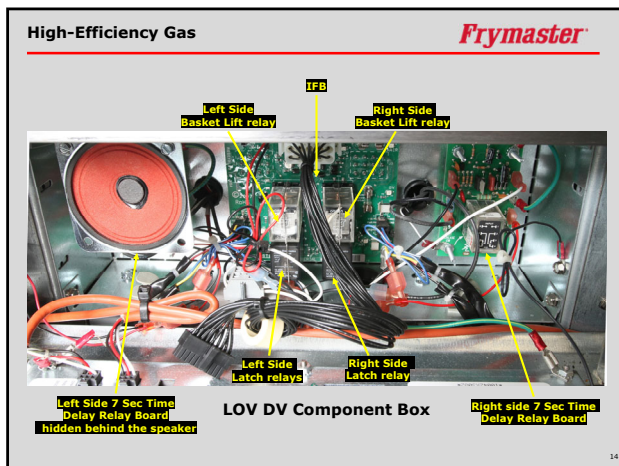


H55 FV Component Box with Single Spark Modules

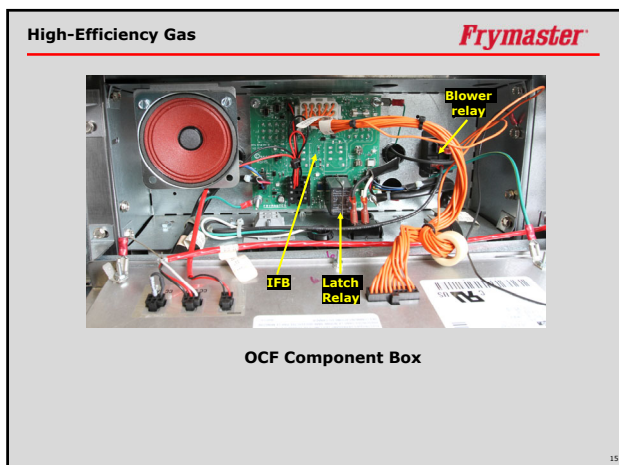
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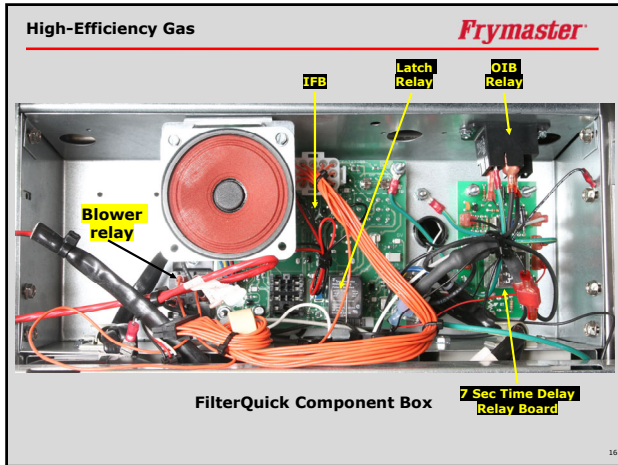
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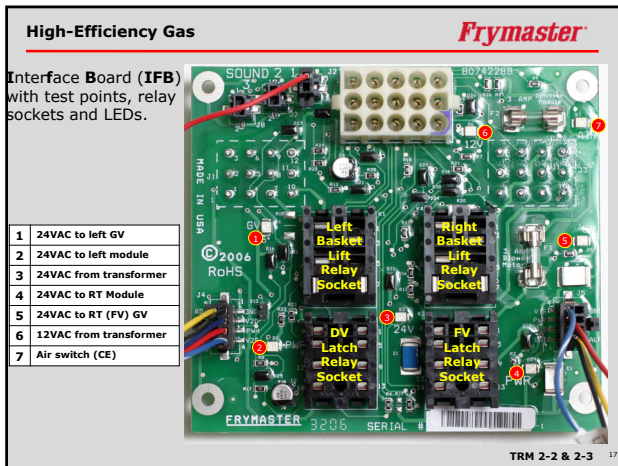
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22

[illegible]

23

The image shows the components of a High-Limit Kit. It includes a long, thin metal temperature probe with a threaded base. A black cable is connected to the probe. The cable has a blue RJ45 connector at one end and a small white plastic switch assembly at the other. The switch assembly has a red label with white text. A blue arrow points from the text 'Locite 567 No longer provided in Kits' to the switch assembly. Several small metal and plastic components, including a metal bracket and several small metal pins, are scattered on the surface next to the switch assembly.

High-Limit

- Normally closed switch
- Opens at $425^{\circ} \pm 12^{\circ} \text{ F}$
- Automatic reset at 350°

Locite 567 No longer provided in Kits

High limit Kit 826-1177

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High-Efficiency Gas

Frymaster®

24-Volt Circuit Full Vat

24 VOLT TRANSFORMER

2A FUSE
LED 5 / 24 V

PIN 8 OF J3

RH HEAT RELAY 24V CONTACTS

LED 4 / R-PWR

RH IGNITION MODULE

LED 2 / L-PWR

LH IGNITION MODULE

LED 5 / R-GV

HIGH LIMIT

GAS VALVE

PWR on module

V 1 S on module

PWR on module

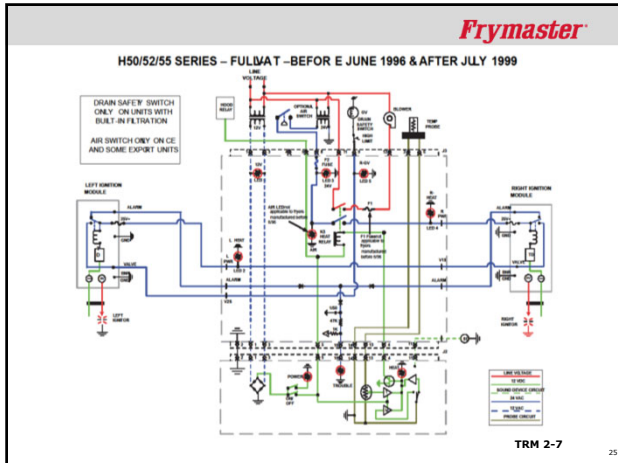
V 2 S on module

PIN 9 OF J3

Older modules are fused on the module - 3A

Drain micro switch if equipped with filter system.

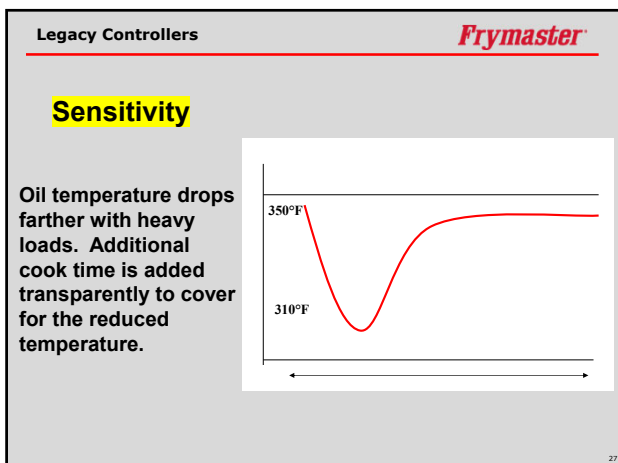
7-sec OIB relay on LOV and FQ.



25



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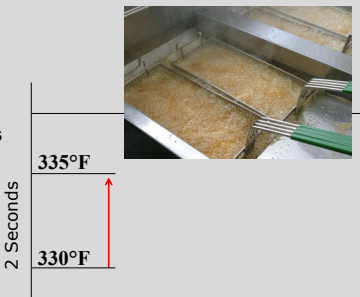


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Legacy Controllers *Frymaster*

Rate of Rise

If the Computer sees a temperature increase of over 5°F in 2 seconds, the controller stops calling for heat for 20-30 seconds.



2 Seconds

335°F

330°F

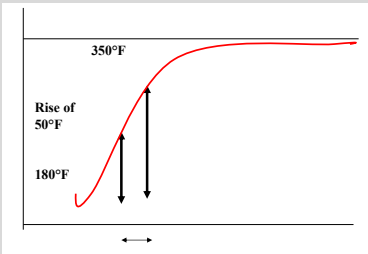
28

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Legacy Controllers *Frymaster*

Recovery

- The time required for the oil to rise from 250°F to 300°F.
- The measurement is taken any time the oil drops below:
 - Legacy 180°F
 - All others 200°F



350°F

Rise of 50°F


180°F

- ☐ Gas 2:25
- ☐ Electric 1:40

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High-Efficiency Gas *Frymaster*



This McDonald's fryer is shown in a universal hood that was introduced in 1995 and incorporates adjustable locking tabs to secure the fryer under the hood.

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High-Efficiency Gas

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Prior to the Universal Hood, A fryer without the Cap-N-Splash locking mechanism leaves a gap in the hood, which disrupts air flow and gathers grease.

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Frymaster

Locking Mechanism

Cap-N-Splash
Introduced June 2015

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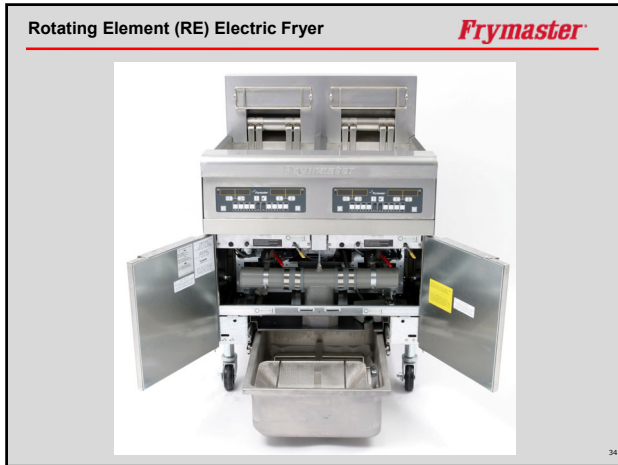
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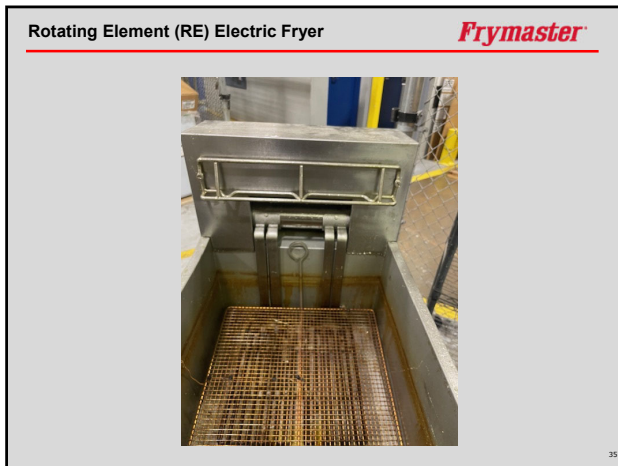
Frymaster
Electric Fryers

1/21/2026

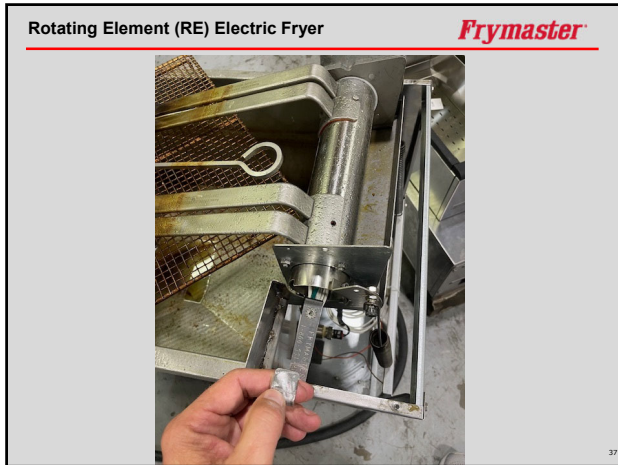
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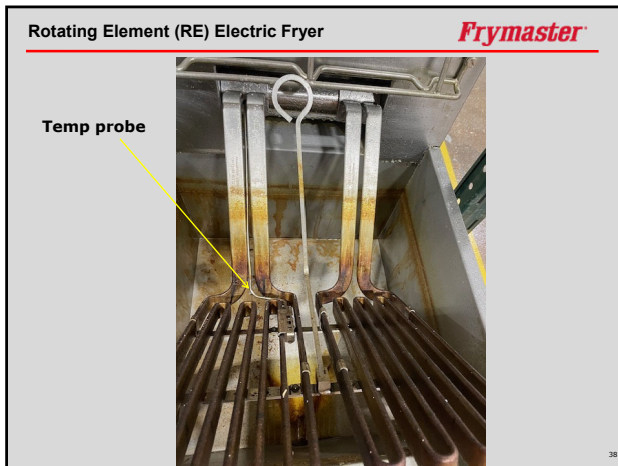
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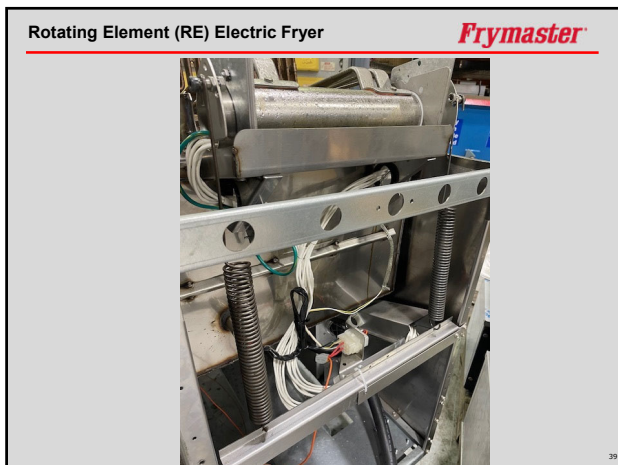


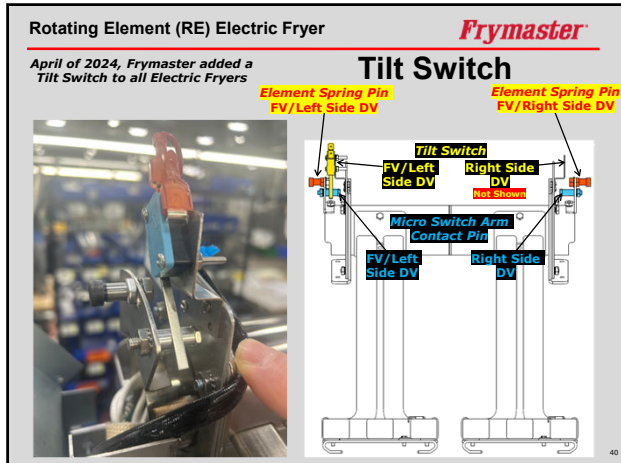


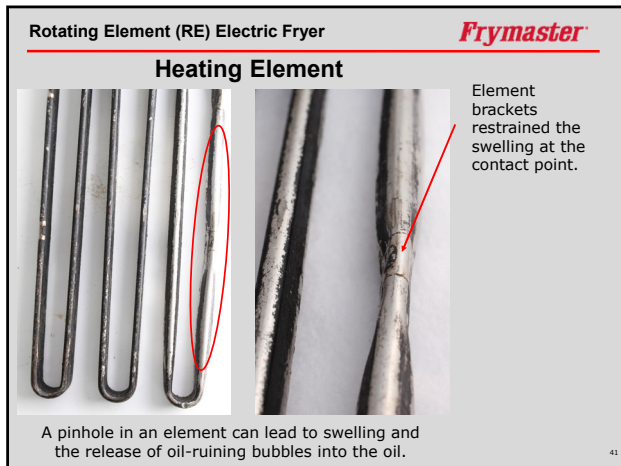


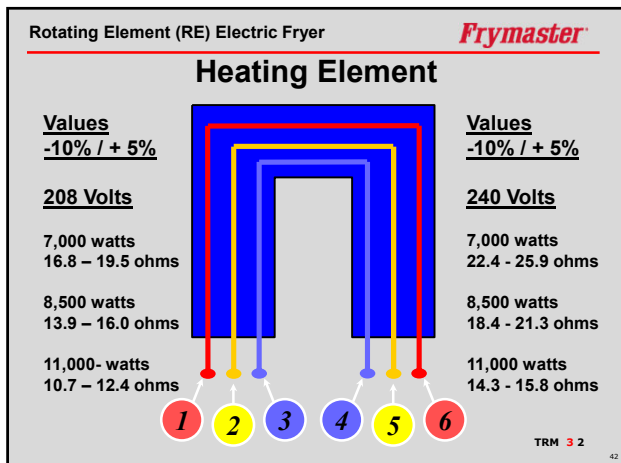


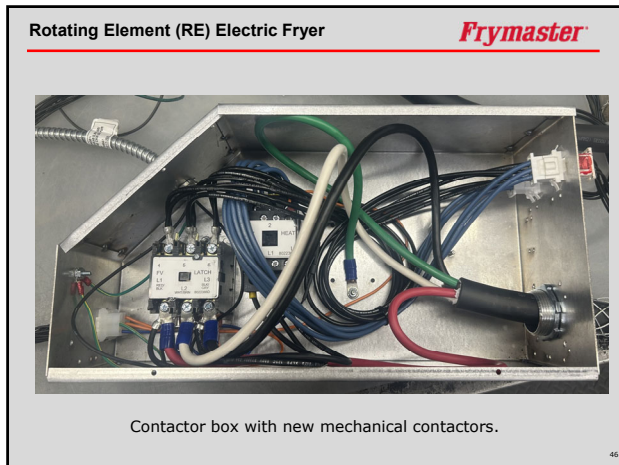


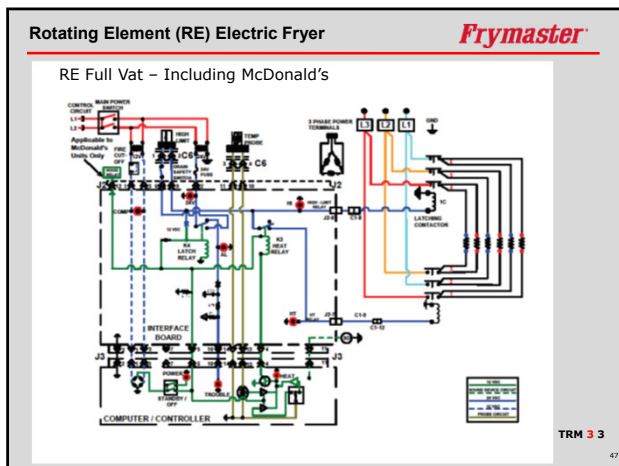








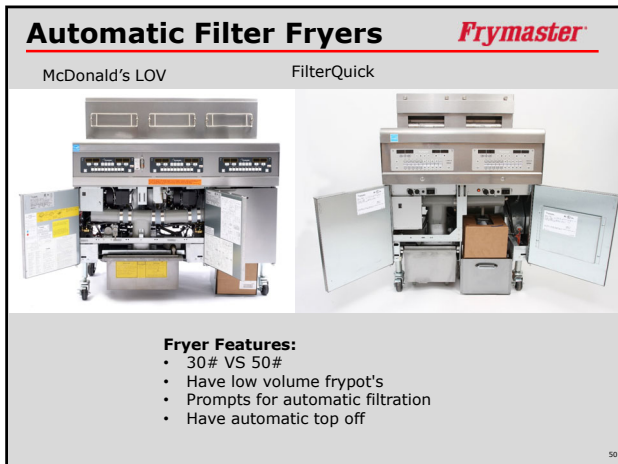




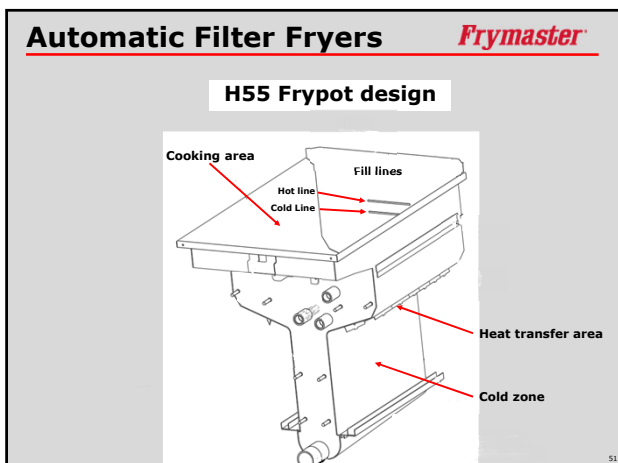




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Automatic Filter Fryers

Frymaster



The 30lb frypot's used in the auto filtering fryers (left) have a shorter and narrower pit than the 50lb fryers.

This area is no longer a Cold Zone

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Automatic Filter Fryers

Frymaster

Acronyms used with the fryers:

LOV -- Low Oil Volume

ATO -- Auto Top Off

AIF -- Automatic Intermittent Filtration

CAN -- Controller Area Network

JIB -- Jug In Box

MIB -- Manual Interface Board



JIB

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Automatic Filter Fryers

Frymaster

Controller overview

- With the computer displaying OFF, press and release the TEMP button to see the 3000/MIB/AIF/ATO software versions on each computer.

- Software updated on left controller via SD Card



SD Card Slot

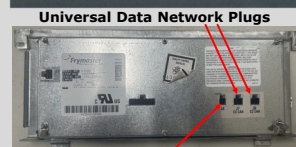
- Power reset rocker is hidden;
- Behind the Left fryer door on Gas
- Behind the Right fryer door on Electric



3000



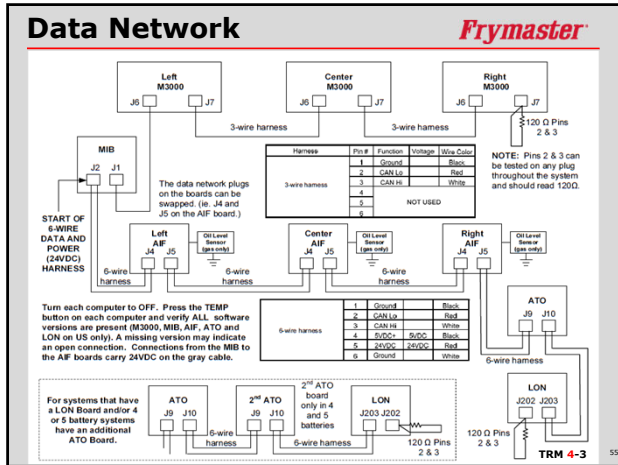
M3000



OCF Drain Micro Switch Plug

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Automatic Filter Fryers Frymaster

Automatic Top Off

- Oil levels are monitored by RTD's.
- When the fryer is at Set Point and the ATO Probe Temperature drops 60° below setpoint, a top off is triggered.
- When the oil touches the ATO Probe, it senses a rapid rise in temperature.
- Once the ATO temp is within 55° of Set Point, the top off stops.
- If the Temp & ATO Probes do not see the temperature get to within 55° of Each other after several attempts, you will be prompted to check the JIB.

ATO Probe and **Temp Probe** are shown in the fryer.

- For McDonald's fryers, the JIB light will illuminate
- For Non-McDonald's, the controller will display JIB Empty.

The ATO is NOT active if the oil is not at set temp, while cooking, during a filtration or a Bulk Oil operation.

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Automatic Filter Fryers Frymaster

Automatic Top Off

ATO Probe, **AIF Probe**, **OIB Sensor**, **Temp Probe**, and **High Limit** are shown in the fryer.

JIB Reset button is shown.

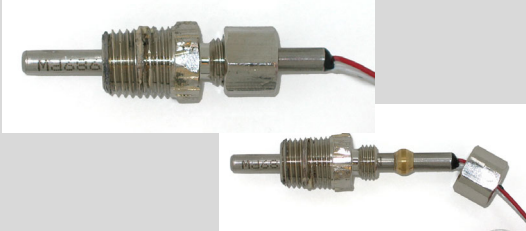
Filter/JIB Lights for McDonald's are shown.

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Automatic Filter Fryers

Frymaster

The ATO RTD (bottom) is similar in design to the Temperature RTD in the H55 gas fryer (& has the same resistance scale)



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Automatic Filter Fryers

Frymaster

The 24 volts ATO Pump (rated at 11 GPH & for 45 PSI)

Pump has a built-in pressure switch



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Automatic Filter Fryers

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Rotary Actuators



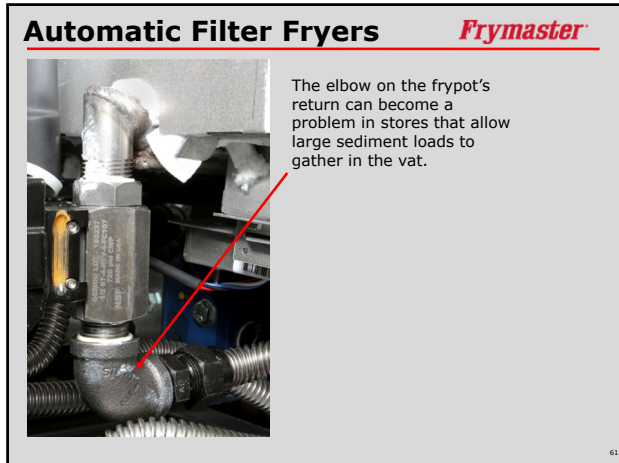
Rotary actuators, which don't require brackets or linkage, replaced linear actuators on LOV Electric fryers Jan 2012 and LOV Gas May 2012.

Linear & Rotary are **NOT** interchangeable.

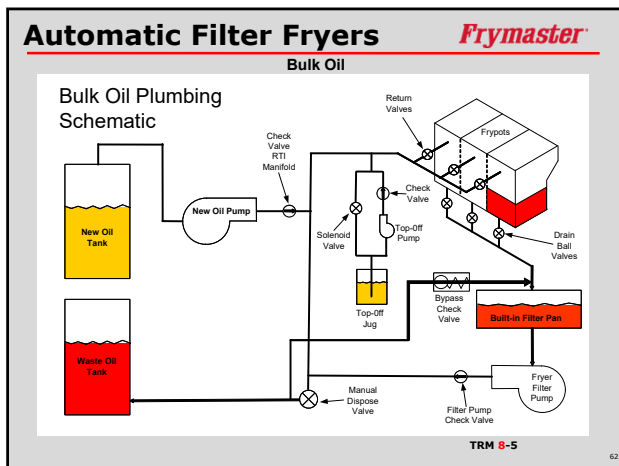
All FilterQuicks fryers are equipped with rotary actuators.

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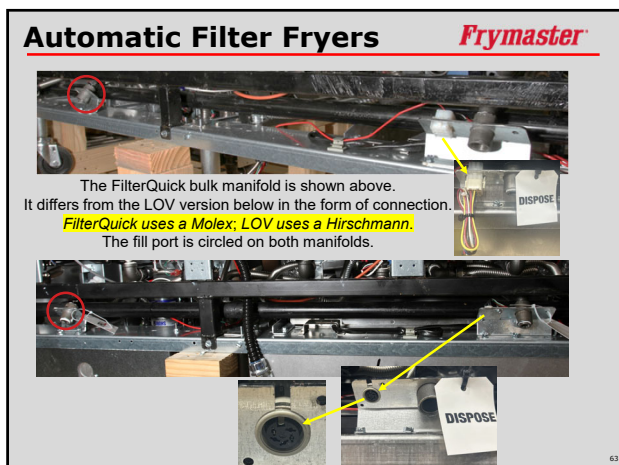
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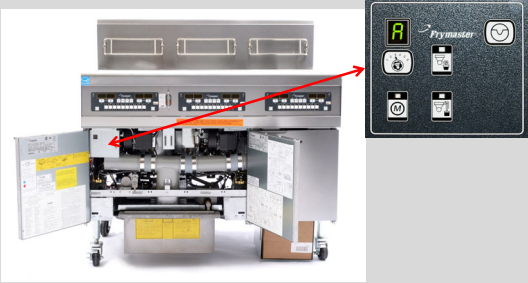
62



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Automatic Filter Fryers *Frymaster*

Auto Filtration- MIB and AIF



The MIB controls filtration, has a sheet metal cover and is accessible by removing one T25 Torx bit.

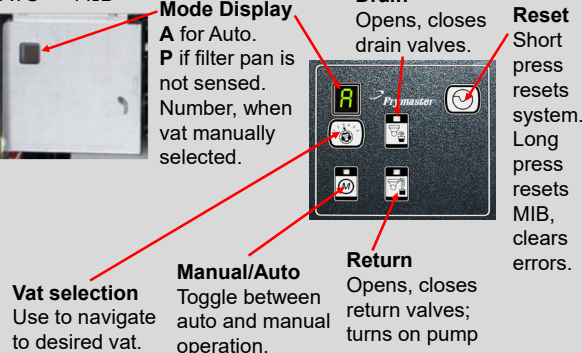
Each frypot has an AIF mounted underneath the frypot that operates the actuators to open and close drain & return valves.

TRM 4-4 64

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Automatic Filter Fryers *Frymaster*

ATO -- MIB



Mode Display
A for Auto.
P if filter pan is not sensed.
Number, when vat manually selected.

Drain
Opens, closes drain valves.

Reset
Short press resets system.
Long press resets MIB, clears errors.

Vat selection
Use to navigate to desired vat.


Manual/Auto
Toggle between auto and manual operation.

Return
Opens, closes return valves; turns on pump

TRM 4-4 65

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Automatic Filter Fryers *Frymaster*




The filter pan must be detected for auto filtering to function. A circuit, closed when the pan is in place by a reed switch in the cabinet interior (above) and a magnet on the pan's front edge (circled left), tells the system that the pan is in place. The P, displayed on the MIB, goes away when the pan is detected.

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Automatic Filter Fryers *Frymaster*

Oil-Is-Back-Sensor



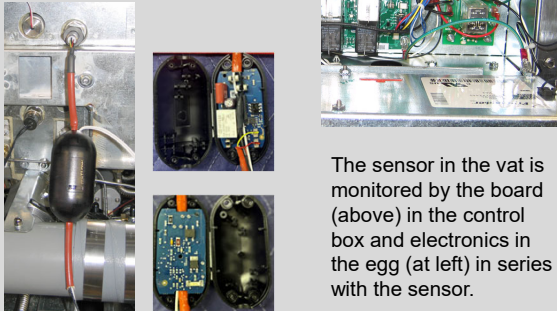
- The oil-is-back sensor serves as a safety to prevent the fryer from heating before oil returns to the vat in a gas fryer.
- The heat of the constantly powered oil sensor rises when the oil leaves the pot. When the temperature of the probe reaches 550°F, the line voltage supplied to the seven second time-delay board begins to switch on and off every four seconds.

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Automatic Filter Fryers *Frymaster*

Oil-Is-Back-Sensor

Seven Second Time Delay Relay Board

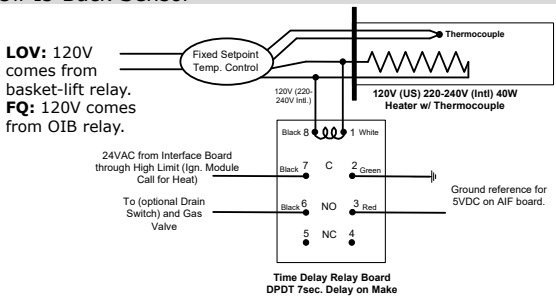


The sensor in the vat is monitored by the board (above) in the control box and electronics in the egg (at left) in series with the sensor.

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Automatic Filter Fryers *Frymaster*

Oil-Is-Back-Sensor



LOV: 120V comes from basket-lift relay.
FQ: 120V comes from OIB relay.

24VAC from Interface Board through High Limit (Ign. Module) Call for Heat

To (optional) Drain Switch) and Gas Valve

Time Delay Relay Board
 DPDT 7sec. Delay on Make

The coil in the circuit opens and denies 24 volts to the gas valve and the ground reference to the 5VDC for the AIF board. The fryer won't heat.

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Frymaster

FRY 2277SV
FilterQuick-Touchscreen
Fryer Training






1/21/2026 70

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FilterQuick-Touchscreen

Frymaster

Brief overview



Benefits

1. Common controller among multiple brands.
2. Very intuitive.
3. Displays are customizable.
4. Most chains have these approved in their system.

Touch screens were introduced at McDonalds in Japan 2014, and we had a full roll out with Taco Bell in 2016. It is a proven concept. 71

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FilterQuick-Touchscreen

Frymaster

Fryer Acronyms

- UIB** — User Interface Board (Touchscreen controller)
- SIB** — Smart Interface Board
- VIB** — Valve Interface Board
- FIB** — Filter Interface Board
- ATO** — Automatic Top-Off
- OQS** — Oil Quality Sensor
- OIB** — Oil is Back
- KCCM** — Kitchen Connect Control Module. Manages communication between fryer and store's monitoring network.
- FQLink** — Replaces KCCM (Kitchen Connect Control Module). Manages communication using the front left controller between fryer and store's monitoring network.
- USB** — Universal Serial Bus, used to upgrade software

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FilterQuick-Touchscreen *Frymaster*

UIB Component Identification

The controller module is sealed in a case. There are no serviceable components on the controller.

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FilterQuick-Touchscreen *Frymaster*

UIC Component Identification

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FilterQuick-Touchscreen *Frymaster*

Control Products (UIB) →

Has a physical Board ID locator wire
Obsolete

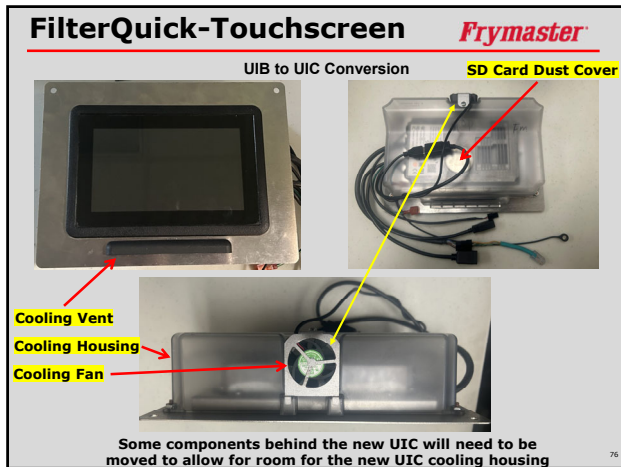
There are three different software packages, depending on the controller type/mix. See SB 2024-24

JABIL (UIC) →

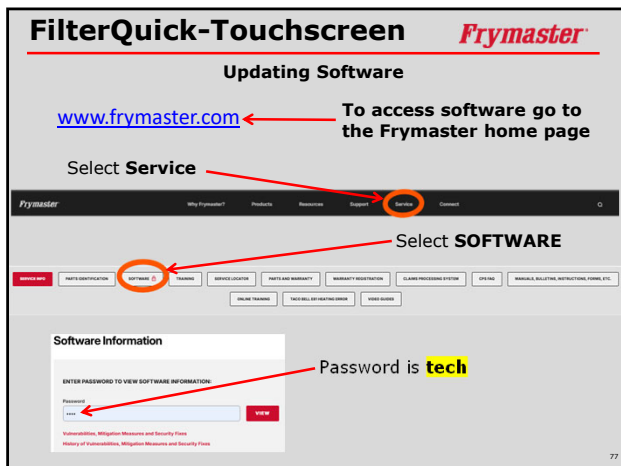
AKA: Common Controller
Board ID is programmable but called Select Vat ID in programming

Replaced Control Products
March/April 2022 on 30lb Fryers
After August 2022 on Tube Fryers

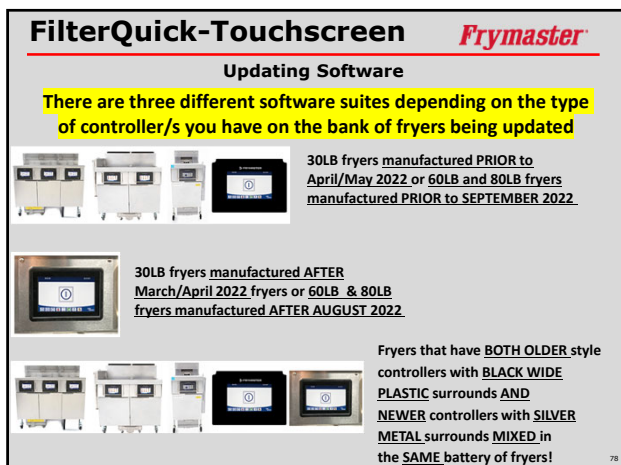
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FilterQuick-Touchscreen
Frymaster

Updating Software

FQ4000 General Market Software Version

[UIB-C MIX: 10.00.142, VIB: 01.03.003, FIB: 10.00.062 and Menu File](#)

Name	Type	Compressed size	Password p...	Size	Ratio	Date modified
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BKFIblmg 10.00.062	HEX File	177 KB	No	723 KB	76%	11/3/2025 11:38 AM
BKFIblmg.bin	BIN File	177 KB	No	723 KB	76%	11/3/2025 11:38 AM
BKFIblmg 10.00.142	HEX File	2,061 KB	No	2,068 KB	1%	11/3/2025 11:28 AM
BKFIblmg.bin	BIN File	2,061 KB	No	2,068 KB	1%	11/3/2025 11:28 AM
BKFIclmg 10.00.142	HEX File	2,061 KB	No	2,068 KB	1%	11/3/2025 11:28 AM
BKFIclmg.bin	BIN File	2,061 KB	No	2,068 KB	1%	11/3/2025 11:28 AM
GMFIblmg 10.00.062	HEX File	177 KB	No	723 KB	76%	11/3/2025 11:38 AM
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FilterQuick-Touchscreen
Frymaster

Component Identification

USB port; used for software/menu updates

USB Port/Reset Switch designs change but remains behind the left fryer door

Reset switch; used to reset system after board changes, software/menu updates.

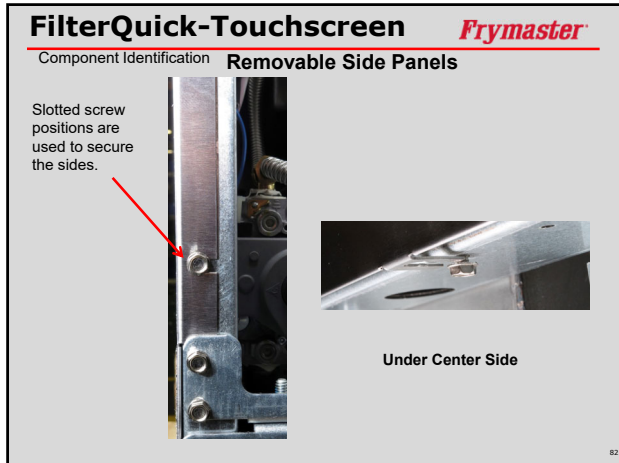
MUST be held a minimum of **30 seconds** to reset the fryer.

80

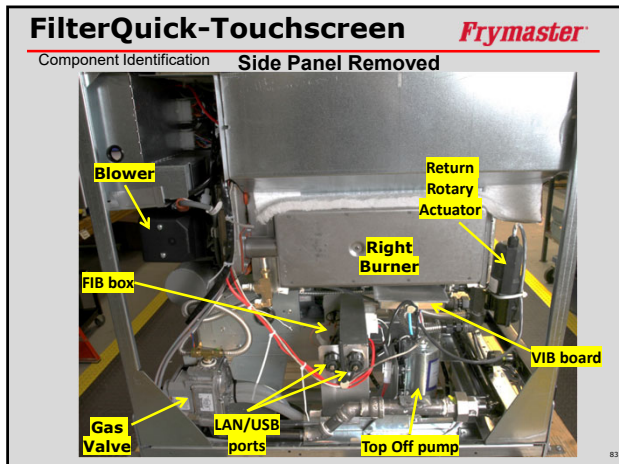
FilterQuick-Touchscreen
Frymaster

Component Identification

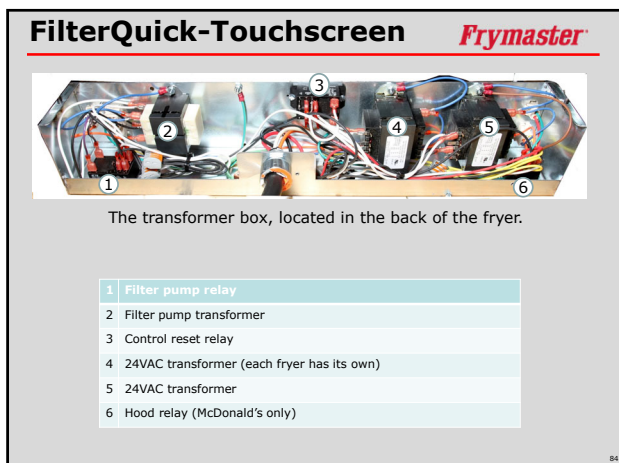
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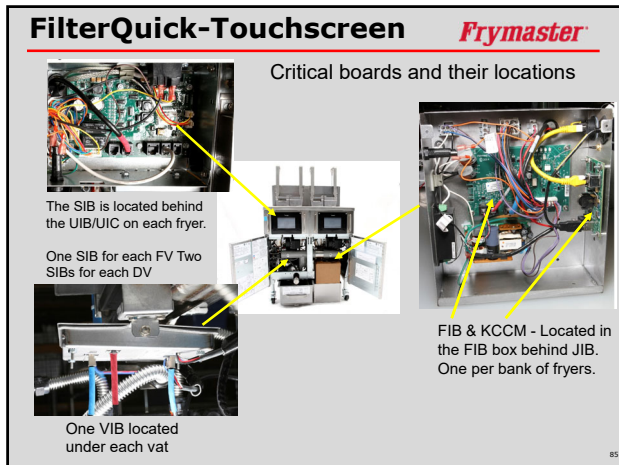
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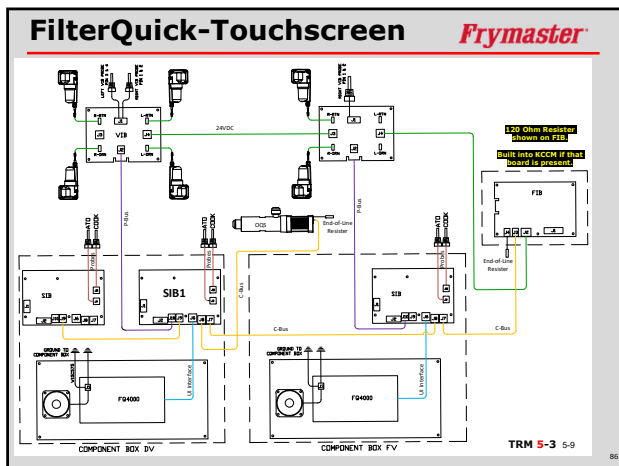
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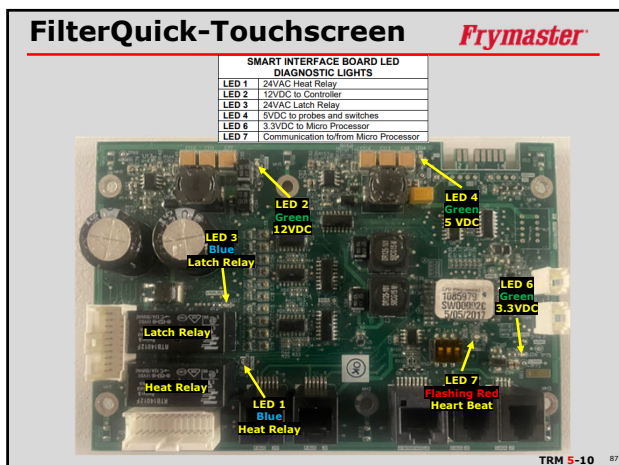
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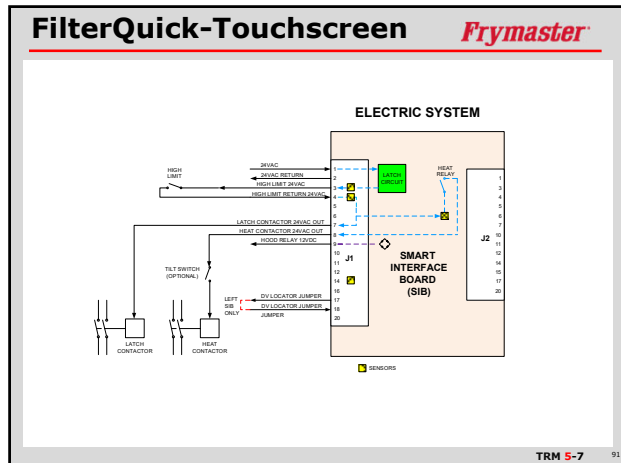
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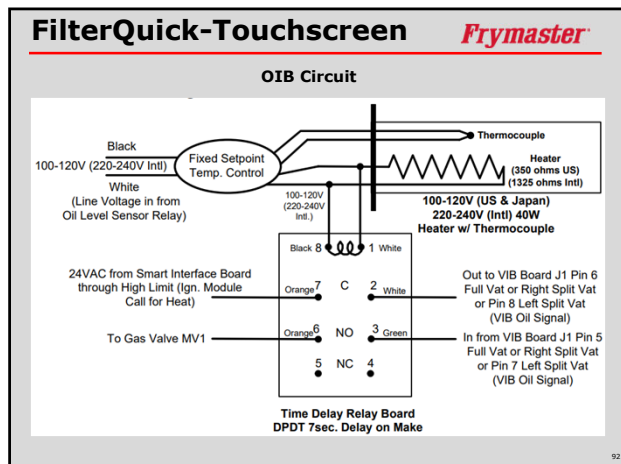
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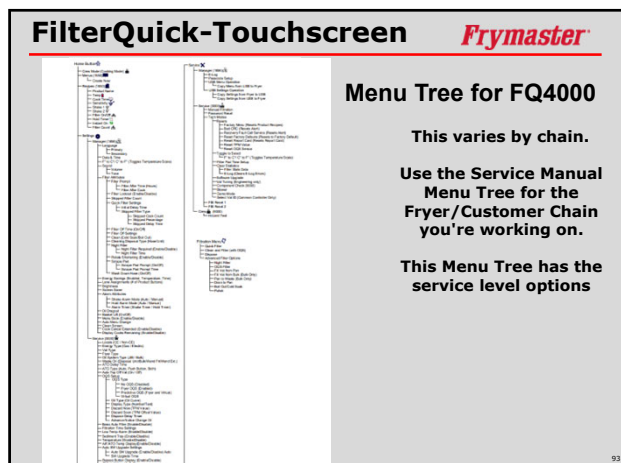
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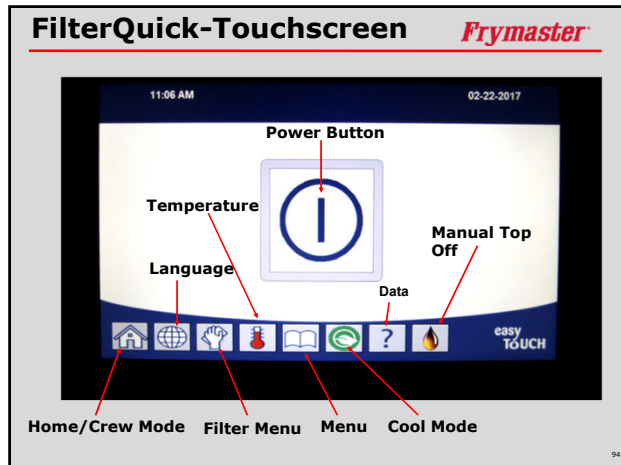
91

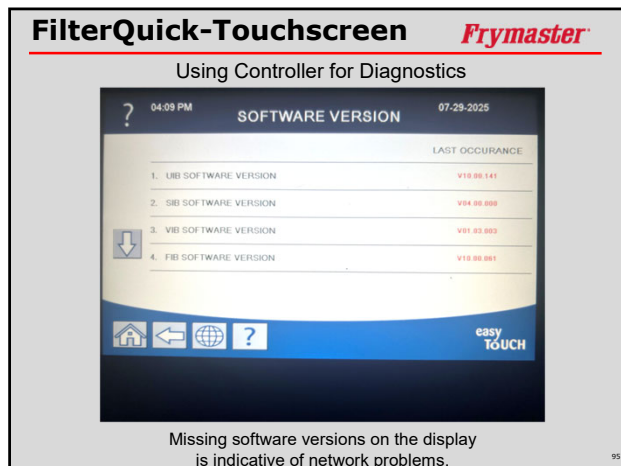


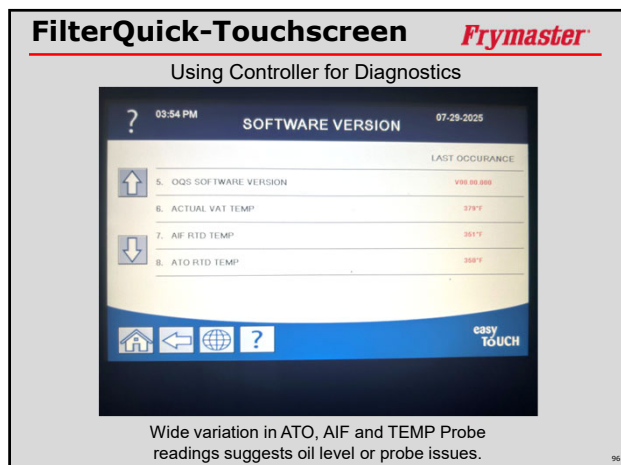
92



93







FilterQuick-Touchscreen *Frymaster*

Using Controller for Diagnostics

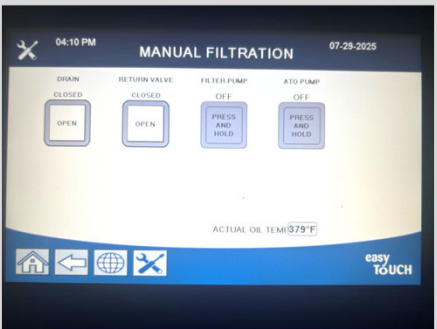


Board ID and Connectivity

97

FilterQuick-Touchscreen *Frymaster*

Using Controller for Diagnostics

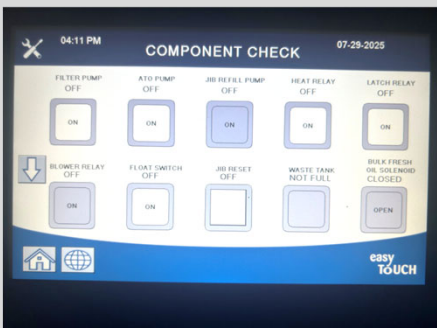


Allows you to manually operate the drain/return actuators and filter pump for troubleshooting

98

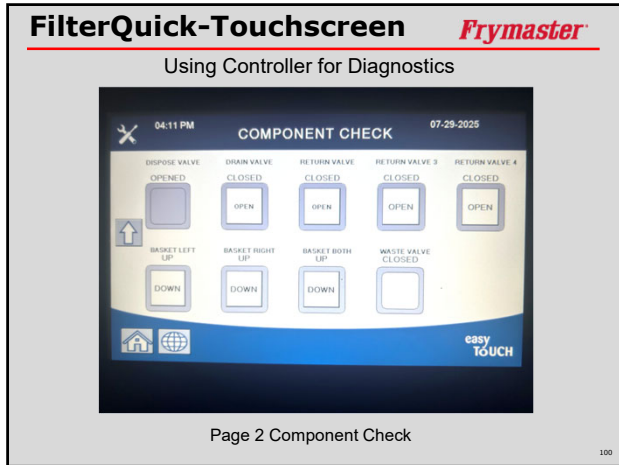
FilterQuick-Touchscreen *Frymaster*

Using Controller for Diagnostics



Allows you to manually operate a variety of components for troubleshooting, including the filter system

99



100
