

## MF50 MF85 MOBILE FILTERS

MODEL	ML
MF50	52065
MF85	52093

### - NOTICE -

This Manual is prepared for the use of trained Vulcan Service Technicians and should not be used by those not properly qualified. If you have attended a Vulcan Service School for this product, you may be qualified to perform all the procedures described in this manual.

This manual is not intended to be all encompassing. If you have not attended a Vulcan Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Vulcan Service Technician.

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# GENERAL

## INTRODUCTION

- Mobile filters are used with fryers equipped with the Filter Ready option or Battery Inter-plumb Systems.
- Use 1/3 HP pump motor which is rated at 5.6 gal/min.
- The model 50 can be used with 3 and 4 burner fryers and can handle up to 50 pounds of frying compound.
- The model 85 can be used with 5 burner fryers and can handle up to 85 pounds of frying compound.

## CLEANING

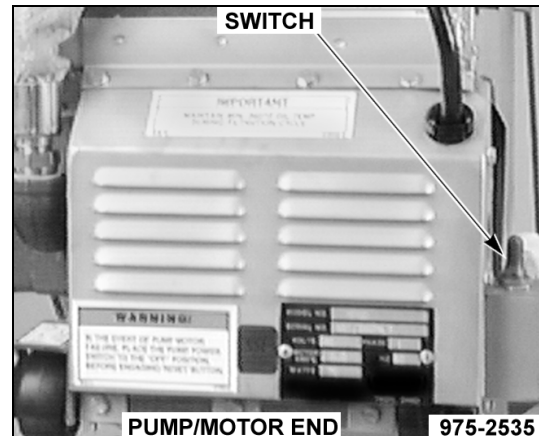
Cleaning instructions can be found in the "INSTRUCTION MANUAL".

**CAUTION:** Do not run water or cleaning compound through the pump.

## TOOLS

- Standard set of hand tools
- VOM with AC current tester (Any VOM with a sensitivity of at least 20,000 ohms per volt can be used.)

## CONTROL LOCATION



## SPECIFICATIONS

Model	Volts	Amps Motor	Amps Heater	Width	Height*	Length
50	120	5.0	.625	12"	16½"	31"
85	120	5.0	.625	16"	16⅞ "	32 "

\* Height measured with quick connect in raised position.

# REMOVAL AND REPLACEMENT OF PARTS

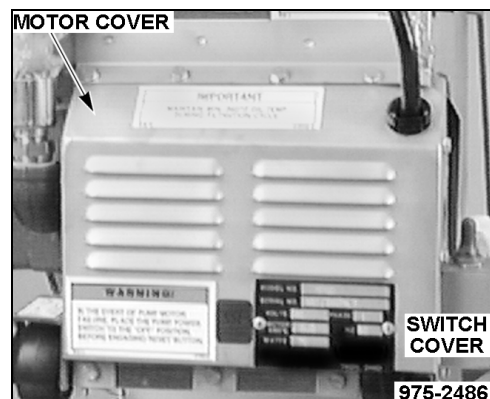
## MOTOR/SWITCH COVER

**WARNING:** HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN SERVICING THE FILTER.

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Empty the oil from tank and remove the filter.
2. Remove the wheels from the motor end of the filter.

3. Remove the screws that secure the cover.



**NOTE:** The short screw is used on the right bracket behind the wheel. The long screws will interfere with the wheel.

4. Remove the switch cover assembly from the motor cover.
5. Disconnect the power cord lead wires from the switch.
6. Remove the screw that secures the ground wires to the motor cover.
7. Reverse procedure to install.

## SWITCH

**WARNING:** HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN SERVICING THE FILTER.

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

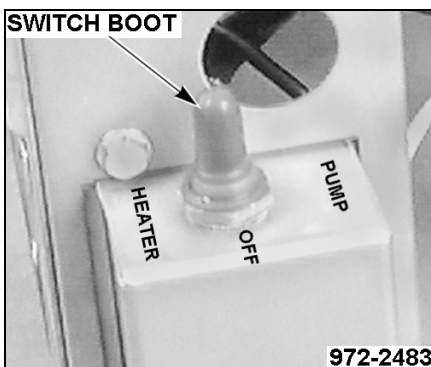
1. Empty the oil from tank and remove the filter.
2. Remove the motor/switch cover as outlined under "MOTOR/SWITCH COVER".

**NOTE:** Only remove the motor/switch cover until you can disconnect the lead wires at the switch.

3. Disconnect the lead wires from the switch.

**NOTE:** When installing the lead wires, the heater leads are toward the rear of the unit and the motor leads are toward the front.

4. Remove the switch boot and knurled nut from the switch stem.



5. Remove the switch from the switch cover.
6. Reverse procedure to install.

## HEATER TUBE

**WARNING:** HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN SERVICING THE FILTER.

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Empty the oil from tank and remove the filter.
2. Remove the heater tube cover from the bottom of the filter tank.

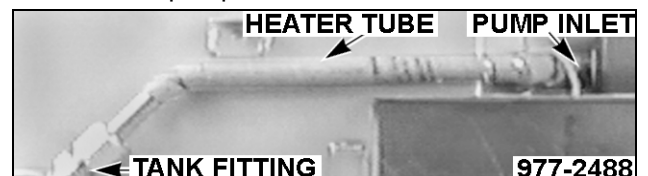


3. Remove the motor/heater cover as outlined under "MOTOR/HEATER COVER".

**NOTE:** You only have to remove the motor/switch cover far enough to disconnect the lead wires to the heater and to route the replacement heater lead wires under the motor.



4. Disconnect the lead wires to the heater.
5. Disconnect the heater tube at the tank fitting and at the pump inlet.



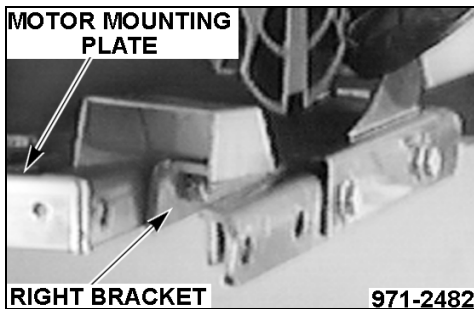
6. Reverse procedures to assemble.

## MOTOR / PUMP

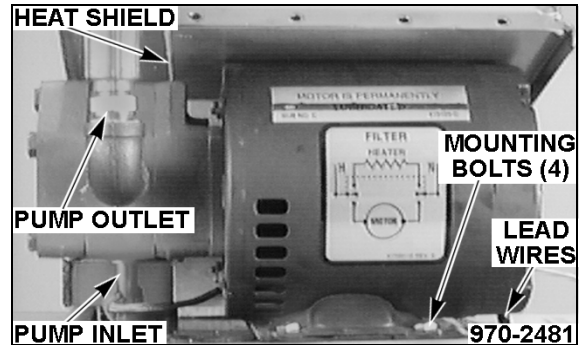
**WARNING:** HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN SERVICING THE FILTER.

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Empty the oil from tank and remove the filter.
2. Remove the motor/switch cover as outlined under "MOTOR/SWITCH COVER".
3. Disconnect the heater tube at the pump inlet and loosen the heater tube at the tank.
4. Remove the right bracket to access the motor mounting bolts.



5. Remove the pump from the from the pump base.
6. Disconnect the lead wires at the motor.



7. Reverse the procedure to install.

## SERVICE PROCEDURES AND ADJUSTMENTS

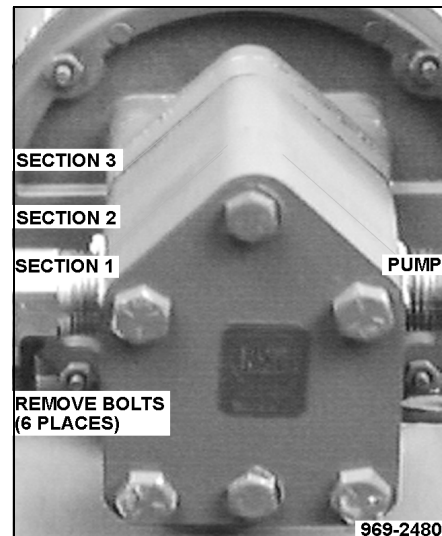
**WARNING:** CERTAIN PROCEDURES IN THIS SECTION REQUIRE ELECTRICAL TEST OR MEASUREMENTS WHILE THE POWER IS APPLIED TO THE MACHINE. EXERCISE EXTREME CAUTION AT ALL TIMES. IF TEST POINTS ARE NOT EASILY ACCESSIBLE, DISCONNECT POWER, ATTACH TEST EQUIPMENT AND REAPPLY POWER TO TEST.

### PUMP CLEAN-OUT

**WARNING:** HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN SERVICING THE FILTER.

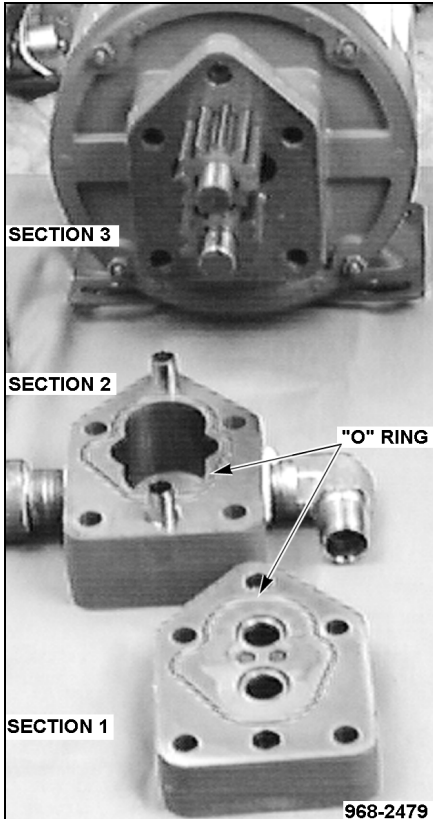
**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Empty the oil from tank and remove the filter.
2. Remove the heater tube cover.
3. Loosen the heater tube at the tank and disconnect the heater tube at the pump inlet.
4. Remove the screws that secure the pump to the motor and the screws that hold the pump together.



- Separate the castings one piece at a time, being careful not to damage the "O" rings between the castings.

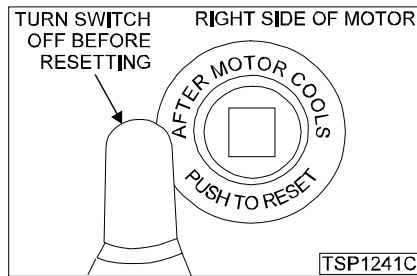
**NOTE:** Only remove the first two castings.



- Clean the passageways.
- Assemble the pump, making sure the "O" rings are installed in the groove.
- Reverse procedure to install.

## MOTOR RESET

- Turn the switch to the off position.
- Press the reset button.



- Turn the switch to the pump position.

## HEATING ELEMENT TEST

- Access the heaters leads.
- Verify the voltage to the heater.
- Check amp reading to the heater.

**NOTE:** values  $\pm 10\%$

**.625 amp**

- WARNING:** UNPLUG UNIT BEFORE SERVICING.
- Disconnect the heater lead wires and check the resistance (cold) of the heater.

**NOTE:** values  $+10\% / -5\%$

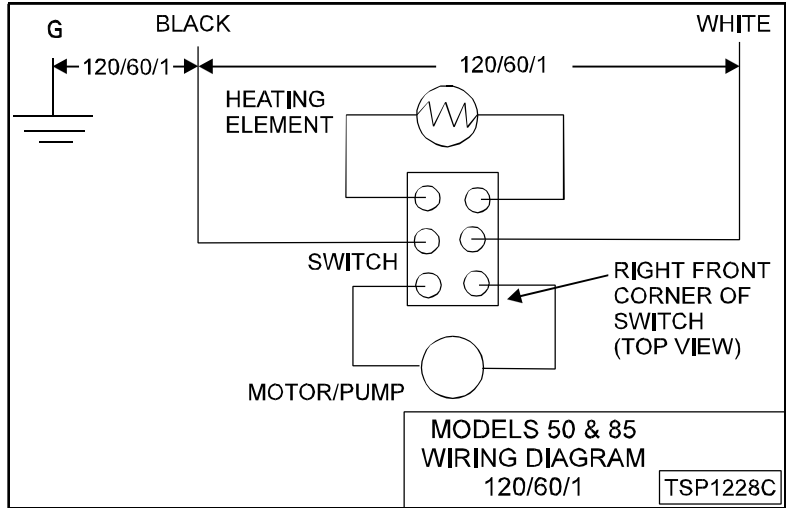
**192 ohms**

# ELECTRICAL OPERATION

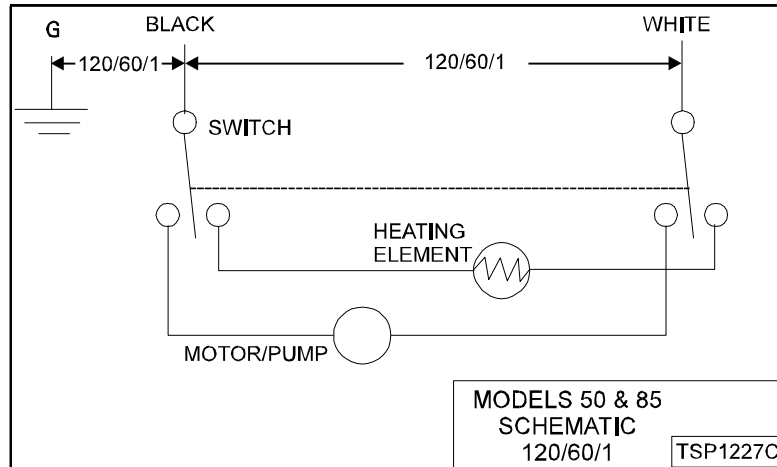
## COMPONENT FUNCTION

- Motor** ..... Turns pump.
- Switch** ..... 3 position switch that directs power to the motor and to the heater tube.
- Heater Tube** ..... Heats tube between inlet of pump and tank.

# WIRING DIAGRAM



# SCHEMATIC



# TROUBLESHOOTING

SYMPTOM	CAUSES
Motor will not run.	<ol style="list-style-type: none"><li>1. Unit unplugged.</li><li>2. Main circuit breaker open.</li><li>3. Switch in incorrect position or a malfunction.</li><li>4. Motor needs reset.</li><li>5. Wiring problem.</li><li>6. Motor malfunction.</li></ol>
Will not pump, motor runs.	<ol style="list-style-type: none"><li>1. Filter plugged.</li><li>2. Heater tube plugged.</li><li>3. Pump malfunction.</li></ol>
Heater tube does not heat.	<ol style="list-style-type: none"><li>1. Unit unplugged.</li><li>2. Main circuit breaker open.</li><li>3. Switch in incorrect position or a malfunction.</li><li>4. Heater malfunction.</li><li>5. Wiring problem.</li></ol>