

Frymaster Fryer

Electric and Gas models using an M2000 Computer

Weekly maintenance task

FR 2 W1 Clean area behind fryers

Bi-weekly maintenance task

FR 2 B1 Calibrate fryer

Monthly maintenance task

FR 2 M1 Calibrate fryer recovery time

Quarterly maintenance tasks

FR 2 Q1 Boil out fry vats (electric fryers only)

FR 2 Q2 Verify high-limit controls

FR 2 Q3 Replace filter o-rings

Semi-annual maintenance task

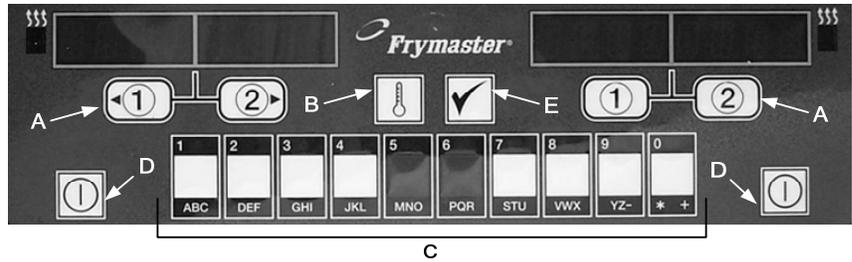
FR 2 S1 Boil out fry vats (gas fryers only)

Annual maintenance task

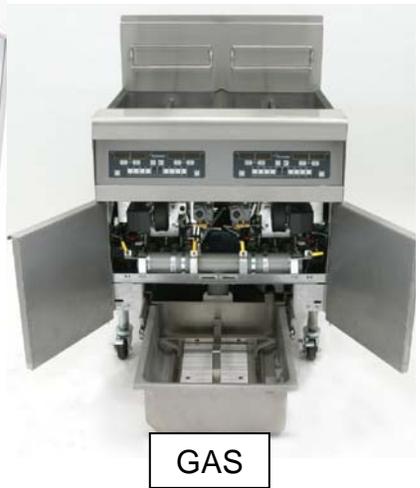
FR 2 A1-T Service inspection (Gas fryers only)

FR 2 A2-T Service inspection (Electric fryers only)

Computer model M2000



A. Cook cycle buttons, B. Temp button, C. Product Buttons, D. ON/OFF, E. Programming button



⚠ Hazards

These icons alert you to a possible risk of personal injury.

🔧 Equipment alerts

Look for this icon to find information about how to avoid damaging the equipment while doing a procedure.

★ Tips

Look for this icon to find helpful tips about how to do a procedure.

★ FEB 2010 8196566 ★

Why	Removed caramelized oil from element hub and surrounding housing.	
Time required	5 minutes to prepare	15 minutes to complete (5 minutes per pot)
Time of day	After close	For 24-hour restaurants: overnight or during low-volume periods
Hazard icons	 Hot Oil  Hot Surfaces  Sharp Objects/Surfaces	

Tools and supplies



No-scratch pad EXCEED – Glass and Multi-surface cleaner Paper towel Neoprene Filtering Gloves

Procedure

- 1 Turn fryers off.
Turn all fryer power switches to the off position.



Replace frypot covers and wipe excess oil from the elements with paper towel.



- 2 Clean front and topside area of heating element hub.
Wearing heat resistant gloves, place covers on fry-pots ensuring they are square with the frypot.



- 3 Clean underside area of heating element hub.

Spray EXCEED on a No-scratch pad.
Use No-scratch pad to clean the underside of the element hub and surrounding housing area.



Spray EXCEED on a No-scratch pad.
Use No-scratch pad to clean around the element hub and surrounding housing area.



Once area has been cleaned wipe off excess with paper towel.

Remove frypot cover. Using a fryer's friend, replace the basket rack and lower the elements.

Once area has been cleaned, wipe off excess with a paper towel.

- 4 Repeat for remaining frypots.

Remove frypot cover and remove basket rack using a fryer's friend, set aside. Lift elements using fryer's friend.



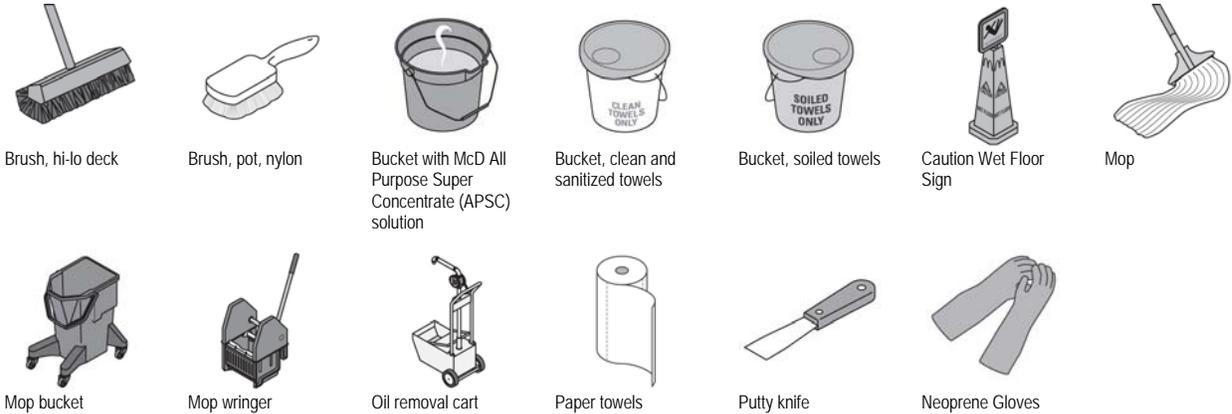
Why To ensure high-quality fried products and reduce the possibility of a fire near the fryer

Time required 5 minutes to prepare 45 minutes to complete

Time of day After close For 24-hour restaurants: overnight or during low-volume periods

Hazard icons  Electricity  Hot Oil  Hot Surfaces  Manual Handling  Sharp Objects/Surfaces
 Slippery Floors

Tools and supplies



Procedure

1 Turn fryers off.
Turn all fryer power switches to the off position.



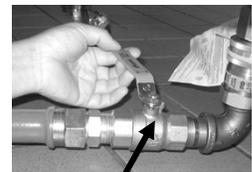
2 Remove and empty grease trough and cup.
Remove the grease trough from the exhaust hood. Remove the grease cup from the hood. The trough and cup are located beneath the hood filters. Pour any oil in the trough and cup into the oil removal cart.



 **Hot Oil**
Oil in trough and cup may be hot. Use gloves.

3 Shut off and disconnect gas.
If the fryer is not a gas fryer, skip this step.

If the fryer is a gas fryer, use the manual gas shut-off valve to shut off the gas supply. The manual gas shut-off valve is located on the supply line before the quick disconnects. Then disconnect the gas line from the fryer via the quick disconnect.



Manual shut-off

 **Equipment Alert**
Use only the manual shut-off valve to shut off the gas. *Do not use the quick disconnects.*

continued ►

Clean area behind fryers (continued)

- 4 Prepare fryer for cleaning.
Release the locks on the fryer wheels.

If the fryer has a capping piece, lift the front of the capping piece far enough to let the backsplash clear the filter shelf. Roll the fryer carefully away from the firewall, just until the capping piece clears the filter shelf.

Secure the capping piece, if there is one. Place vat covers on all vats.

Roll the fryer farther away from the firewall, far enough to clean behind the fryer.



Oil in fryer may be very hot. Roll the fryer slowly to avoid splashing the oil. Use gloves

- 5 Disconnect fryer from electricity.
Unplug the fryer's electrical cord from the outlet by pulling on the electrical plug's body. You may need to twist the plug to remove from the outlet.



- 6 Clean fryer filters.
Remove the fryer filters from the exhaust hood. Take the filters to the three-compartment-sink and soak them in McD APSC.



continued ►

- 7 Scrape area behind fryer.
Use a putty knife to scrape off all soft grease and hard carbon from the area behind the fryer. Clean the following areas in this order: the parts of the stack you can reach; the back of the exhaust hood; the sides of the exhaust hood; and the fryer filter recess area.



On an electric fryer, next use the putty knife to scrape all soft grease and hard carbon from all sheet metal around the fryer, the standoff piece, and the fryer stand. Skip to step 8 after these areas are cleaned.

On a gas fryer, next use the putty knife to scrape all soft grease and hard carbon from these areas in this order: the flue restrictor, all sheet metal around fryer, the removable gravity blade, the seal angle, the stand-off piece, and the fryer stand.

On a gas fryer, be careful not to drop any soft grease or hard carbon into the fryer flue passage while cleaning.

Equipment Alert

Do not break the fire protection fusible link in the lower area of the stack. Breaking the link will activate the fire extinguishing system.

Clean area behind fryers (continued)

- 8 Clean area behind fryer.**
Use a nylon pot brush, a hi-lo deck brush, and a bucket of hot McD APSC solution to scrub all of the areas you scraped in step 7. Clean the areas in the same order that you scraped them in step 7. Then use the hi-lo deck brush to scrub the floor around the fryer.



Wipe all areas with paper towels until they are clean and dry.



Slippery Floors

The floor may be wet where you have scrubbed it.

- 9 Ask manager to inspect.**
Ask a manager to inspect your work and approve the cleaning. Repeat any cleaning as your manager directs.

- 10 Wash fryer legs and casters.**
Use a nylon pot brush and a bucket of hot McD APSC solution to wash the legs and casters of the fryer. Wipe dry with paper towels.



- 11 Mop floor around fryer.**
Use a mop and a bucket of hot McD APSC solution to mop the entire floor around the fryer.



Slippery Floors

Floor may be wet from mopping.

- 12 Allow surfaces to dry.**
Allow all fryer, wall, and floor surfaces to air dry.



- 13 Reconnect fryer to electricity.**
Roll the fryer slowly toward the electrical outlet until it is close enough to connect the plug. Plug the fryer into the outlet.



Electricity



Hot Oil

Oil in fryer may be very hot. Roll the fryer slowly to avoid splashing the oil.

- 14 Prepare fryer for use.**
Roll the fryer forward carefully until it is close to the filter shelf. Remove the vat covers from all vats. Lift the front of the capping piece until the backsplash clears the filter shelf, and roll the fryer carefully into its normal position.



- 15 Reconnect fryer to gas supply.**
If the fryer is an electric fryer, skip this step.



Check both ends of the quick disconnect for grease. Wipe the quick disconnect clean if necessary. Reconnect the gas line coupling.

continued ►

Equipment Alert

Be sure the gas quick disconnect is fully engaged and interlocked before turning on the gas supply.

Clean area behind fryers (continued)

- 16** Reinstall fryer filters and grease trough.
Lock wheels into place. Reinstall the fryer filters and the grease trough in the exhaust hood.



- 17** Turn on gas supply.
If the fryer is an electric fryer, skip this step.



continued ►

Turn the manual gas shut-off valve to the on position. Turn the computer on to verify burners will re-light. Once the burners have been re-lit you can turn the computer off.

- 18** Clean area behind other fryers.
Repeat steps 1 through 17 for all remaining fryers.



Why	To maintain food safety standards	
Time required	1 minutes to prepare	5 minutes to complete, once fryer has reached cooking temperature. Cook temperature should be reached in approximately 45 minutes.
Time of day	At open	For 24-hour restaurants: during low-volume periods
Hazard icons	 Hot Oil  Hot Surfaces	

Tools and supplies



Procedure

1 Calibrate pyrometer.
Fill a hot beverage cup with ice and then add cold water from the drink tower up to the top of the ice. You should have 50 percent ice and 50 percent water.

2 Place probe in water
Place the probe in the ice water and stir continuously until the temperature readout stabilizes.

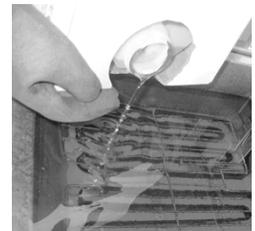
3 Read temperature
The readout should be 32°F (0°C), plus or minus 2°F (1°C). If not, you need to calibrate, repair, or replace the pyrometer. For calibration, follow the calibration, checking, and adjusting procedures supplied by the manufacturer of your pyrometer.



2 Turn on fryer and heat oil.
Press the on/off button to turn the fryer on. Set the fryer for the product to be cooked. Allow the oil in the fryer to reach cooking temperature and then cycle off.

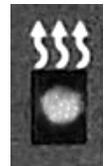


3 Check oil level.
Check the oil level when the oil has reached cooking temperature. If the oil is above the “Oil Level” line, remove oil until the oil is at the line by draining oil into pan or disposal unit. If the oil is below the “Oil Level” line, add oil until the oil reaches the line.



 **Hot Oil**
Oil in the fryer is very hot. Use gloves.

4 Cycle vat.
Allow the vat to cycle on and off three times. The heat light will come on when the fryer is heating.



continued ►

Calibrate fryer (continued)

- 5 Read oil temperature.**
Insert the fry vat probe of the pyrometer into the hot oil to within 1 inch (2.5 cm) of the probe's tip. The tip should be approximately 3 inches (7.6 cm) below the surface of the oil. Allow the temperature reading to stabilize.



- 6 Display temperature on fryer.**
Press the temperature display switch for the vat where you took the pyrometer reading. The display will show the temperature for the vat.



- 7 Compare temperature readings.**
Compare the temperature reading on the pyrometer with the corresponding temperature on the display.



If the two temperatures are less than 5°F (3°C) apart (either plus or minus), you do not need to adjust the temperature setting.

If the two temperatures are more than 5°F (3°C) apart (either plus or minus), call a service technician to report the problem.

- 8 Repeat for other side of split-vat.**
If the vat you tested was a full vat, skip this step and go to step 9.

If the vat you tested was one side of a split-vat, repeat steps 5 through 7 on the other side of the split-vat.



- 9 End calibration check.**
When you have finished steps 5 through 7 for the vat (including both sides of a split-vat), press the on/off button to end the calibration check for the vat.

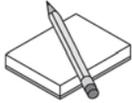


- 10 Calibrate remaining fryers.**
Repeat steps 1 through 9 for all remaining fryers.



Why	To maintain food safety standards for fried products	
Time required	1 minute to prepare	5 minutes to complete,
Time of day	At open	For 24-hour restaurants: in the morning
Hazard icons	 Hot Oil  Hot Surfaces	

Tools and supplies



Paper and pencil

Procedure

- 1 Turn fryer off.**
Press the on/off button to turn the fryer off. The display will show "OFF."



- 2 Check most recent recovery time.**

The fryer automatically records the fryer's recovery time each time the vat temperature rises from 250°F (121°C) to 320°F (160°C).

Press the button marked with a checkmark to enter the fryer's programming mode. The left display will show "Code."

Press the buttons marked "1, 6, 5, 2" in that order to enter code 1652. The display will show the most recent recovery time in both displays. Write down the recovery time.



- 3 Compare most recent recovery time to acceptable recovery time.**

The acceptable recovery time for electric fryers is less than 100 seconds. The acceptable recovery time for gas fryers is less than 145 seconds.

If the recovery time you wrote down is less than the fryer's acceptable recovery time, the fryer's performance is acceptable. Skip to step 5.

If the time you wrote down is more than the fryer's acceptable recovery time, the fryer's performance is not acceptable. Go to the next step.

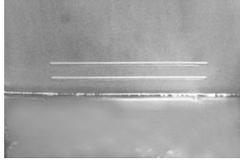


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Calibrate fryer recovery time (continued)

4 Adjust fryer, if necessary.

If the fryer's recovery time is not acceptable, check the following items on the fryer. If you find any problems, correct them as described.



If the fryer filters are dirty, replace them.

If the oil is below the "Oil Level" line when the fryer is at cooking temperature, add oil until it reaches the "Oil Level" line.

If the oil is above the "Oil Level" line, remove oil until it reaches the "Oil Level" line.

For electric fryers only, confirm that the large power plug is properly plugged in. Adjust as necessary.

For gas fryers only, check the seal angle, gravity blade, and standoff. Adjust their placement if necessary.

For gas fryers only, check the air flow and combustion air blower. Adjust as necessary.

For gas fryers only, check the condition of the radiant burners.

Refer to trouble shooting guide in Operators manual.

5 Check recovery time again.

If Recovery Time is not achieved in the proper time, call the Frymaster Service Hotline for assistance at 1-800-551-8633.



6 Recalibrate all remaining fryers.

Repeat steps 1 through 5 for all remaining fryers.



Why	To keep the fry vats clean and to maintain proper cooking temperatures	
Time required	5 minutes to prepare	75 minutes to complete
Time of day	At close	For 24-hour restaurants: during low-volume periods at night
Hazard icons	 Hot Liquids/Steam  Hot Oil  Hot Surfaces  Manual Handling  Slippery Floors	

Tools and supplies



Apron, heat-resistant



Brush, pot, heat-resistant



Bucket, plastic



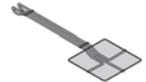
Bucket, clean and sanitized towels



Bucket, soiled towels



Face shield



Fryer skimmer



Gloves, neoprene



Gofer stick



McD All Purpose Super Concentrate (APSC) solution



McD Heavy Duty DeGreaser



Oil removal cart



Paper towels



Maple Paddle with no scratch pad

Procedure

- 1 If this is first boil-out, program boil-out into fryer.

If the fryer is new, the boil-out procedure must be programmed into the fryer before it is boiled out for the first time.

If the fryer has been boiled out before, skip this step.

Press the on/off button to turn the fryer off.

Press the button marked with a check mark. The left display will show "code."

Press the number keys 1,6,5,0. Then press the button marked with a 1 and left arrow to step through the menu of items and products. Stop when you reach "boil out" (#40 product position).

Press a gray product button to store the "boil out" entry. The



continued ▶

green display of the button pressed will light up.

Press the on/off button to turn the fryer off.

Boil out fry vats (electric fryers only) (continued)

2 Prepare for boil-out and turn fryer off.

Put on neoprene gloves, a heat-resistant apron, and a face shield. You must wear this equipment throughout this procedure.

This procedure should be done for only one vat at a time.

Confirm that the fryer filters are in place. Turn at least one exhaust fan on. The fan must stay on for the entire procedure.

Make sure the basket support rack is in place in the vat.

Press the on/off key to turn the fryer off.

Equipment Alert

Avoid accidentally activating the fire extinguishing system by keeping an exhaust fan on and the fryer filters in place during the entire procedure.

3 Remove filter pan.

Open the doors to the filter area and remove the filter pan. Place it on the floor under the fryer's drain spout or use an oil removal cart.

After boil out is complete clean and dry filter pan.



4 Drain oil from vat.

Be sure the filter pan or an oil removal cart is in place underneath the drain spout on the fryer. If the fryer has a swivel drain spout, pull it outward.

Carefully open the drain valve, and let the oil drain into the oil removal cart or pan. Push any pieces of fried food or other sediment into the drain valve, so they drain out. Close the drain valve.



The oil may be very hot. Avoid splashing oil.

5 Add degreaser and hot water to vat.

Pour McD Heavy-Duty Degreaser carefully into the vat. Use 2 gallons (8 liters) of degreaser if you are cleaning a full vat. Use 1 gallon (4 liters) of degreaser if you are cleaning one side of a split vat. Finish filling the vat with hot water. Solution should be 1 inch above fill line.

6 Remove the fryer capping piece if the fryer has one.

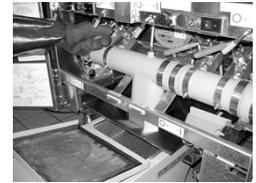
Take back to sink and clean with McD's Heavy Duty Degreaser and APSC.



McD Heavy Duty Degreaser

7 Turn fryer on.

Press the on/off key to turn the fryer on. The display will show "low temp."



continued ►

Boil out fry vats (electric fryers only) (continued)

8 Start boil-out.
Press the gray product button. The display will show a set of left arrows and right arrows. Locate the cook channel button under the vat you want to boil out. Press and hold the cook channel button for approximately 5 seconds, then release the button. The display near the button should show "boil out." Press the button under the display again. The boil-out should start.



9 Allow solution to heat up.
The solution will reach a temperature of 195°F (91°C). The solution should be at a soft, rolling simmer. Once the solution has reached its target temperature, let it simmer for approximately 60 minutes. Complete steps 9 through 11 while the timer is running.



Hot Liquids/Steam
The solution should never come to a rolling boil, or it may boil over. If unit starts to boil over turn fryer off.

Never leave the fryer unattended during boil out.

10 Clean fry baskets.
Place the fry baskets into the cleaning solution. Have another crew person remove them when clean and take them to the three-compartment-sink. Rinse and dry them thoroughly.



continued ▶



Equipment Alert
Do not place any aluminum parts in the boiling solution. The solid metal basket hangers are made of aluminum.

11 Clean basket support rack.
Use the goofer stick to remove the basket support rack from the vat. Have another crew person take the rack to the three-compartment-sink, and rinse it thoroughly in hot water. Dry thoroughly.



Hot Surfaces
The basket support rack is very hot.

12 Scrub inside of vat.
Scrub the side, front, and back walls of the vat with a heat-resistant pot brush to remove any remaining deposits.



13 Turn fryer off.
When the vat has simmered at a rolling simmer (boiled out) for approximately 60 minutes, press the on/off button to turn the fryer off.



Boil out fry vats (electric fryers only) (continued)

- 14 Drain solution from fryer.**
Place a 5-gallon (19-liter) bucket under the fryer's drain. Open the fryer drain valve far enough to allow the solution to flow slowly into the bucket. Let 2 or 3 gallons of solution drain into the bucket. Close valve then change to an empty bucket and let 2 or 3 gallons of solution drain into the bucket. You will need several buckets to drain the fryer completely.



The cleaning solution should be discarded or re-used in another fryer within 3 hours. After 3 hours, discard the solution.



The solution will be very hot. Avoid splashing.

- 15 Scrub inside of vat.**
Use the maple paddle with non scratch pad to scrub the side, front, back and top of vat. Remove any remaining deposits. McD Fryer Cleanser may be use also.



- 16 Fill vat with water.**
Fill vat with the appropriate amount of plain water.



continued ►

- 17 Drain solution from vat.**
Place a 5-gallon (19-liter) bucket under the fryer's drain. Open the fryer drain valve far enough to allow the dirty solution to flow slowly into the bucket. Discard the dirty solution. Place the bucket under the fryer drain again and open the valve completely.



Do not place more than 2 or 3 gallons of solution in a bucket at a time.

Scrub any remaining deposits or carbon in the vat with a non-scratch pad.



The solution will be very hot. Avoid splashing.

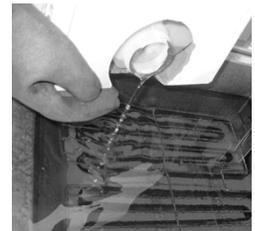


Drain the solution only into buckets. Do not drain into the filter pan or oil removal cart.

- 18 Rinse and dry vat.**
Rinse the vat thoroughly with warm water (100°F or 38° C). Be sure to have a bucket underneath the drain to catch rinse water. Repeat with more clean, warm water. Wipe the vat down with a clean, sanitized towel. Close the fryer drain valve. Thoroughly dry the inside of the vat with paper towels.



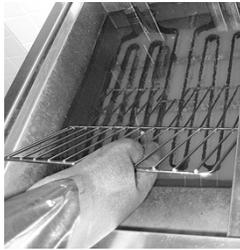
- 19 Fill vat with oil.**
Fill the vat with the appropriate amount of oil.



Boil out fry vats (electric fryers only) (continued)

20 Prepare fryer for use.

Place the basket support rack in the correct position in the fryer vat. If the fryer has a swivel drain spout, push the spout back inside the fryer cabinet. Carefully push the filter pan back into the fryer cabinet.



21 Turn fryer on.

Turn fryer on. Press the on/off key to turn the fryer on. The display will show "low temp."



22 Skim oil.

When the oil has heated, skim off any particles of carbon floating on the surface of the oil.



23 Season baskets and racks.

Season the baskets and the basket support racks by leaving them in the fresh oil for approximately 2 minutes at cooking temperature.



24 Boil-out remaining fryers.

Repeat steps 1 through 21 for each remaining fryer.



Why	To ensure fryer safety controls are working effectively	
Time required	45 minutes for fryer to heat up.	25 minutes per pot to complete. 1 hour for oil to cool down before disposal.
Time of day	After closing. Conduct this test when the cooking oil is due to be changed.	For 24-hour restaurants: during low-volume periods when oil is scheduled to be changed
Hazard icons	 Hot Liquids/Steam  Hot Oil  Hot Surfaces	

Tools and supplies



Oil removal cart



Neoprene Gloves

Procedure

1 Prepare for tests.

Confirm that the oil in the fryer is scheduled to be changed. The oil must be discarded at the end of the procedure.

Check the oil level in the fryer. It should be at the upper "Oil Level" line. If the oil level is below that line, add oil until it reaches the "Oil Level" line.

Check the temperature of the oil. The oil temperature should be above 180°F (82°C).

Confirm that the hood grease filters are in place, and turn the exhaust fans on. The fans must stay on for the entire procedure. During this procedure, the oil in the fryer is heated to very high temperatures. The oil may smoke slightly, and it will be extremely hot.



2 Turn fryer off.

Press the on/off key to turn the fryer off. The display will show "OFF."



3 Put fryer into programming mode.

Press the button marked "checkmark" to put the fryer into programming mode. The left display will show "Code."



continued ►

4 Decide which vat to test.

You can test either a full vat or the right-hand side of a split-vat, or the left-hand side of a split-vat.



To test a full vat or the right-hand side of a split-vat, press the key numbered "9" four times to enter the code 9999. The right display will show "Hi-Limit."

To test the left-hand side of a split-vat, press the key numbered "8" four times to enter the code 8888. The left display will show "Hi-Limit."

Verify high-limit controls (continued)

5 Equipment alert

Be extremely careful during this procedure.



Hot Liquids/Steam



Hot Oil



Hot Surfaces

Test the first (internal) high-limit control.

If you decided to test a full vat or the right-hand side of a split-vat, press the right cook channel button marked “1” and hold it until the heat indicator button lights up. This shows the fryer is calling for heat.

If you decided to test the left-hand side of a split-vat, press the left cook channel button marked “1” and hold it until the heat indicator button lights up. This shows the fryer is calling for heat.

The right display will alternate between displaying “Hi-Limit” and the current oil temperature until the temperature reaches 410°F (210°C). When the temperature reaches 410°F (210°C), the display will alternate between “Hi-1” and the current temperature. The heat indicator light will go out. If you see these things, the control has passed the first test.

If the display alternates between “Hi-1” and “bad,” the control has failed the test.

When the test is finished, reset the computer by pressing the on/off key to turn the computer off, and then press the on/off key again to turn the computer on.



continued ►

6 Test second (mechanical) high-limit control.

If you are testing a full vat or the right-hand side of a split-vat, press and hold the right cook channel button marked “2.”

If you are testing the left-hand side of a split-vat, press and hold the left cook channel button marked “2.”

The display will alternate between “Hi-Limit” and the current oil temperature until the oil temperature reaches 425°F (218°C). At that temperature the display should show “Hi-2.” If it shows “Hi-2” at that temperature, the control has passed the test.

If the display alternates between “Hi-2” and “bad,” the control has failed the test.

Press the on/off button to clear the second test and turn the computer off.



Verify high-limit controls (continued)

7 Decide what to do if either control failed.

If both controls pass the test, skip this step.

If the fryer fails the first high-limit control test but passes the second one, the vat can be used if that is absolutely necessary. The computer controls should be replaced as soon as possible. Use extreme care when using the vat in this case.

If the fryer fails the second high-limit control test, *do not use the vat until the second (mechanical) high-limit control has been replaced*. Call a service technician immediately.

In the first test, if the heat indicator light goes out when the temperature is less than 410°F (210°C), that means that the high-limit control has activated at a lower temperature than normal. You do not need to replace the computer controls in this case unless they are interfering with proper cooking.

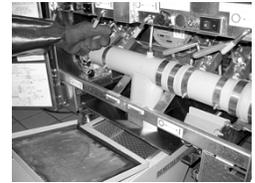
In the second test, if the display begins to alternate between “HI 2” and “bad” when the temperature is less than 425°F (218°C), that means that the high-limit control has activated at a lower temperature than normal. You do not need to replace the high-limit control in this case unless it is preventing you from testing the first high-limit control.



continued ►

8 Discard oil.

When you have completed both tests, allow the oil to cool for one hour. Then discard the oil. Drain the oil into an oil removal cart. Use Neoprene Gloves



The oil is may be hot.

9 Verify high-limit controls for all remaining fryers.

Repeat steps 1 through 10 for all remaining fryers.



Why	To keep the fryer's filter pump in working order	
Time required	2 minutes to prepare	5 minutes to complete
Time of day	At open; the fryer must be cool	For 24-hour restaurants: During a low-volume period when the fryer can be turned off

Hazard icons  Hot Oil  Hot Surfaces

Tools and supplies



O-rings for the filter pump



Flat tip screwdriver

Procedure

1 Prepare fryer for procedure.
Check to make sure the fryer is cool. This procedure should be done only when the fryer is cool and the filter pan is empty.



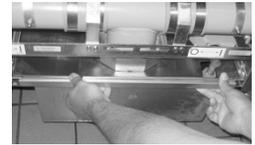
2 Remove filter pan.
Pull the filter pan out of the cabinet.



3 Replace O-ring.
Remove the O-ring from the pan nozzle. Replace the O-ring with a new O-ring. O-rings can be purchased from your local authorized servicer.



4 Reinstall filter pan.
Reinstall the pan into the fryer cabinet.



Equipment Alert
Use only the manufacturer's replacement O-ring. These rings are manufactured specifically for use with hot cooking oils. Generic O-rings cannot be used for this purpose.

Why	To keep the fry vats clean and to maintain proper cooking temperatures	
Time required	5 minutes to prepare	75 minutes to complete
Time of day	At close	For 24-hour restaurants: during low-volume periods at night
Hazard icons	 Hot Liquids/Steam  Hot Oil  Hot Surfaces  Manual Handling  Slippery Floors	

Tools and supplies



Procedure

- If this is first boil-out, program boil-out into fryer.**
If the fryer is new, the boil-out procedure must be programmed into the fryer before it is boiled out for the first time.

If the fryer has been boiled out before, skip this step.

To program boil-out into the fryer, follow these steps.

Press the on/off button to turn the fryer off.

Press the button marked with a check mark. The left display will show "code."



Press the number keys 1, 6, 5, 0. Then press the button marked "1 and left arrow" to step through the menu of items and products. Stop when you reach "boil out" (#40 product position).

Press a gray product button to store the "boil out" entry. The green display of the button pressed will light up.

Press the on/off button to turn the fryer off.

Boil out fry vats (gas fryers only) (continued)

- 2 Prepare for boil-out and turn fryer off.

Put on neoprene gloves, a heat-resistant apron, and a face shield. You must wear this equipment throughout this procedure.

This procedure should be done for only one vat at a time.

Confirm that the fryer filters are in place. Turn at least one exhaust fan on. The fan must stay on for the entire procedure.

Make sure the basket support rack is in place in the vat.

Press the on/off key to turn the fryer off.

Equipment Alert

Avoid accidentally activating the fire extinguishing system by keeping an exhaust fan on and the fryer filters in place during the entire procedure.

- 3 Remove filter pan.

Open the doors to the filter area and remove the filter pan. Place it on the floor under the fryer's drain spout or use an oil removal cart.

After boil out is complete clean and dry filter pan.



- 4 Drain oil from vat. Be sure the filter pan or an oil removal cart is in place underneath the drain spout on the fryer. If the fryer has a swivel drain spout, pull it outward.

Carefully open the drain valve, and let the oil drain into the oil removal cart or pan. Push any pieces of fried food or other sediment into the drain valve, so they drain out. Close the drain valve.



Hot Oil
The oil may be very hot. Avoid splashing oil.

- 5 Add degreaser and hot water to vat.

Pour McD Heavy-Duty Degreaser carefully into the vat. Use 2 gallons (8 liters) of degreaser if you are cleaning a full vat. Use 1 gallon (4 liters) of degreaser if you are cleaning one side of a split vat. Finish filling the vat with hot water. Solution should be 1 inch above fill line.

- 6 Take back to sink and clean with McD's Heavy Duty Degreaser and APSC.



Chemicals
McD Heavy Duty Degreaser

- 7 Turn fryer on. Press the on/off key to turn the fryer on. The display will show "low temp".



continued ►

Boil out fry vats (gas fryers only) (continued)

8 Start boil-out.
Press the gray product button. The display will show a set of left arrows and right arrows. Locate the cook channel button under the vat you want to boil out. Press and hold the cook channel button for approximately 5 seconds, then release the button. The display near the button should show "boil out." Press the button under the display again. The boil-out should start.



9 Allow solution to heat up.
The solution will reach a temperature of 195°F (91°C). The solution should be at a soft, rolling simmer. Once the solution has reached its target temperature, let it simmer for approximately 60 minutes. Complete steps 9 through 11 while the timer is running.



 **Hot Liquids/Steam**

The solution should never come to a rolling boil, or it may boil over. If unit starts to boil over turn fryer off.

Never leave the fryer unattended.

10 Clean fry baskets.
Place the fry baskets into the cleaning solution. Have another crew person remove them when clean and take them to the three-compartment-sink. Rinse and dry them thoroughly.



 **Equipment Alert**

Do not place any aluminum parts in the boiling solution. The solid metal basket hangers are made of aluminum.

11 Clean basket support rack.
Use the goofer stick to remove the basket support rack from the vat. Have another crew person take the rack to the three-compartment-sink, and rinse it thoroughly in hot water. Dry thoroughly.



 **Hot Surfaces**

The basket support rack is very hot.

12 Scrub inside of vat.
Scrub the side, front, and back walls of the vat with a heat-resistant pot brush to remove any remaining deposits.



continued ►

13 Turn fryer off.
When the vat has simmered at a rolling simmer (boiled out) for approximately 60 minutes, press the on/off button to turn the fryer off.



Boil out fry vats (gas fryers only) (continued)

- 14 Drain solution from fryer.**
Place a 5-gallon (19-liter) bucket under the fryer's drain. Open the fryer drain valve far enough to allow the solution to flow slowly into the bucket. Let 2 or 3 gallons of solution drain into the bucket. Close valve then change to an empty bucket and let 2 or 3 gallons of solution drain into the bucket. You will need several buckets to drain the fryer completely.



The cleaning solution should be discarded or re-used in another fryer within 3 hours. After 3 hours, discard the solution.



The solution will be very hot. Avoid splashing.

- 15 Scrub inside of vat.**
Use the maple paddle with non scratch pad to scrub the side, front, back and top of vat. Remove any remaining deposits. McD Fryer Cleanser may be use also.



- 16 Fill vat with water.**
Fill vat with the appropriate amount of plain water.



- 17 Drain solution from vat.**
Place a 5-gallon (19-liter) bucket under the fryer's drain. Open the fryer drain valve far enough to allow the dirty solution to flow slowly into the bucket. Discard the dirty solution. Place the bucket under the fryer drain again and open the valve completely.



continued ▶

Do not place more than 2 or 3 gallons of solution in a bucket at a time.

Scrub any remaining deposits or carbon in the vat with a non-scratch pad.



The solution will be very hot. Avoid splashing.

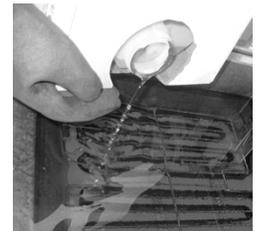


Drain the solution only into buckets. Do not drain into the filter pan or oil removal cart.

- 18 Rinse and dry vat.**
Rinse the vat thoroughly with warm water (100°F or 38° C). Be sure to have a bucket underneath the drain to catch rinse water. Repeat with more clean, warm water. Wipe the vat down with a clean, sanitized towel. Close the fryer drain valve. Thoroughly dry the inside of the vat with paper towels.



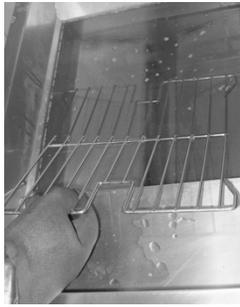
- 19 Fill vat with oil.**
Fill the vat with the appropriate amount of oil.



Boil out fry vats (gas fryers only) (continued)

20 Prepare fryer for use.

Place the basket support rack in the correct position in the fryer vat. If the fryer has a swivel drain spout, push the spout back inside the fryer cabinet. Carefully roll the filter pan back into the fryer cabinet.



21 Turn fryer on.

Turn fryer on. Press the on/off key to turn the fryer on. The display will show "low temp."



22 Skim oil.

When the oil has heated, skim off any particles of carbon floating on the surface of the oil.



23 Season baskets and racks.

Season the baskets and the basket support racks by leaving them in the fresh oil for approximately 2 minutes at cooking temperature.



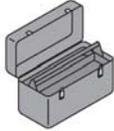
24 Boil out remaining fryers.

Repeat steps 1 through 21 for each remaining fryer.



Why	To ensure proper cooking temperatures	
Time required	45 minutes to prepare	20 minutes to complete
Time of day	At close	For 24-hour restaurants: during low-volume periods or at night
Hazard icons	 Electricity  Hot Liquids/Steam  Hot Oil  Hot Surfaces	

Tools and supplies



Tools supplied by technician

Procedure

QUALIFIED TECHNICIANS ONLY

1 Cabinet inspection

Inspect the cabinet, inside and out, front and rear, for excessive oil buildup.



2 Check regulated gas pressure.

Contact the local gas company or a service agency to check the gas pressure out of the fryer's gas regulator.

For natural gas, the pressure must be 3.0 in. W.C. (76 mm W.C.) For propane gas, the pressure must be 8.25 in. W.C. (210 mm W.C.)

If the pressure does not meet these standards, ask the service agency or gas company to adjust the pressure to meet the standard.

3 Probe check

Verify that the temperature and high-limit probes are properly connected, tightened and functioning properly, and that mounting hardware and probe guards are present and properly installed.

4 Clean and Replace gas valve vent tube.

Clean and replace the gas valve vent tube. Follow the cleaning procedure in the service manual.

5 Clean combustion air blower.

Clean the combustion air blowers. Follow the cleaning procedure in the service manual.

6 Check fryer recovery time.

Choose a vat on the fryer. Check the fryer's most recent recovery time for that vat, using the procedure in FR2 M1. The most recent recovery time should be less than 2:25 (two minutes, twenty-five seconds).

If the fryer's recovery time is less than 2:25 (two minutes, twenty-five seconds), the procedure is complete for this vat. Go to step 9.

7 Check combustion.

If the fryer's recovery time is less than 2:25 (two minutes, twenty-five seconds), skip this step.

Connect the multimeter in series with the white flame sensor wire on the igniter. Allow the burner to operate for at least one minute after the melt cycle is completed. After 1 minute, the reading on the multimeter should be between 2.5 and 3.5 microamps. Any other reading is not acceptable.

After 90 seconds of continuous operation, check the color of the burner. The burner should glow bright orange-red. Use the Burner Color Comparison Chart inside the door of the fryer to identify the correct color. A blue flame or dark spots on the burner face are not acceptable.

Annual Inspection (gas fryers only) (continued)

8 Adjust combustion air blower, if necessary.

If the fryer's recovery time is less than 2:25 (two minutes, twenty-five seconds), skip this step.

If either the multimeter reading or the burner color is not acceptable, adjust the combustion air blower intake plate.

Loosen the locking nuts on the intake plate with a small adjustable wrench. Open or close the plate to adjust the airflow while watching the multimeter reading and the color of the burner. A blue flame usually means the burner isn't receiving enough air. Dark spots on the burner usually mean the burner is receiving too much air.

When the microamp reading is in the acceptable range and the burner color is bright orange-red, hold the blower intake plate in place. Then tighten the blower intake plate locking nuts.

9 Safety device check

Verify that all safety features (i.e. drain safety switches, reset switches, etc.) are present and functioning properly.

10 Frypot examination

Verify that the frypot is in good condition and free of leaks and that the frypot insulation is in serviceable condition.

11 Wiring harness inspection

Verify that all wiring harnesses and connections are tight and in good condition.

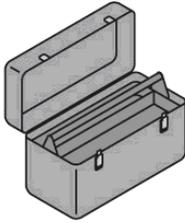
12 Oil line inspection

Inspect all oil-return and drain lines for leaks and verify that all connections are tight.

13 Calibrate remaining fryers.

Repeat steps 2 through 12 for each remaining vat and fryer.

Why	Frymaster recommends that a Factory Authorized Service Technician inspect this appliance at least annually. This will help ensure the equipment is in safe working order and operating at peak performance.
Time required	N/A 1 hour per fryer to complete inspection
Time of day	The inspection should be scheduled by the store to ensure business is not interrupted and to give the servicer adequate access to the equipment.
Hazard icons	 Chemicals  Electricity  Hot Oil  Hot Surfaces  Manual Handling  Moving Parts  Sharp Objects/Surfaces  Slippery Floors

Tools and supplies


Tools supplied by technician

Procedure
QUALIFIED TECHNICIANS ONLY

- 1 **Cabinet inspection**
Inspect the cabinet, inside and out, front and rear, for excessive oil buildup.
 **Hot Surfaces**
- 2 **Element inspection**
Verify that heating elements are in good condition with no carbon/caramelized oil build up. Inspect the elements for signs of extensive dry firing.
- 3 **Tilt inspection**
Verify that the tilt mechanism is working properly when lifting and lowering elements and that the element wires are not binding and/or chafing.
- 4 **Check fryer recovery time.**
Choose a vat on the fryer. Check the fryer's most recent recovery time for that vat, using the procedure in FR2 M1. The most recent recovery time should be less than 1:40 (one minute, forty seconds).

If the fryer's recovery time is less than 1:40 (one minute, forty seconds). The procedure is complete for this vat. Go to step 6
- 5 **Adjust fryer, if necessary.**
If the fryer's recovery time is not acceptable, check the following items on the fryer. If you find any problems, correct them as described.

For electric fryers only, confirm that the large power plug is properly plugged in. Adjust as necessary. Continue to step 6.
- 6 **Amp-draw check**
Verify the heating element amp-draw is within the allowed range as indicated on the appliance's rating plate.

Annual Inspection (electric fryers only) (continued)

- 7 Probe check**
Verify that the temperature and high-limit probes are properly connected, tightened and functioning properly, and that mounting hardware and probe guards are present and properly installed.
- 8 Electrical component inspection**
Verify that component box and contactor box components (i.e. computer/controller, relays, interface boards, transformers, contactors, etc.) are in good condition and free from oil build up or other debris.
- 9 Wiring connection inspection**
Verify that component box and contactor box wiring connections are tight and that wiring is in good condition.
- 10 Safety device check**
Verify that all safety features (i.e. contactor shields, drain safety switches, reset switches, etc.) are present and functioning properly.
- 11 Frypot examination**
Verify that the frypot is in good condition and free of leaks and that the frypot insulation is in serviceable condition.
- 12 Wiring harness inspection**
Verify that all wiring harnesses and connections are tight and in good condition.
- 13 Oil line inspection**
Inspect all oil-return and drain lines for leaks and verify that all connections are tight.