Planned Maintenance System: Maintenance Requirement Card (MRC)

Grill/Fryer Stacks

Frymaster L.L.C.

CARD NO. 12

Pictures and additional information: Corresponding Chapter of Equipment Manual

When
Quarterly-Grill Stacks

Semi-Annually- Fryer Stacks

Tools
Flashlight; protective goggles

Precaution

None

Clean Grill/Fryer Stacks

1. Call service agency to clean grill stacks.

   Note: Upon completion of stack cleaning, it is necessary for management to follow up on the service agency. If the checks are not satisfactory, call the service agency.
2. Inspect the back of the grill. Ensure that it is clean and free of grease. See *MRC 11A (Clean Behind Grills).*
3. Check to ensure the firewall is clean and free of grease.
4. Check the fusible link visually to ensure it is clean and in place.

   Caution: Use protective goggles to protect against any loose debris.
5. Check the inside of the hood to ensure it is clean and free of grease.
6. Inspect the inside of the stack with a flashlight. Ensure that is clean and free of grease.
7. Proceed to the roof for the next checks.
8. Turn the fan disconnect switch located at the fan to the OFF position.
9. Check the exhaust fan and surrounding areas to make sure it is clean and free of grease.
10. Tilt fan up and look into the stack to see that it is free of grease.
11. Return fan to the “down” position and turn fan switch back ON.
12. Stack cleaning is complete.

Pictures and additional information:
Corresponding Chapter of Equipment Manual

Fryers

CARD NO. 14

Frymaster Electric & Gas Fryers

Frymaster Electric Fryer Models:

BIMH14 & MACH14 Series (With Thermostat Controller)
BIMH14 & MACH14 Series (With MACC100 Computer)
BIMH14 & MACH14 Series (With MACC100A Computer)
BIH14 & MH14 Series (With M100A Computer)
BIH14 & MH14 Series (With M100B Computer)
BIH14, BIPH14, MPH14 & MH14 Series (With M2000 Computer)

Frymaster Gas Fryer Models:

BIMH52 & MACH52 Series (With Thermostat Controller)
BIMH52 & MACH52 Series (With MACC100 Computer)
BIMH52 & MACH52 Series (With MACC100A Computer)
BIMH52 & MACH52 Series (With M100A Computer)
BIH52 & MH52 Series (With M100B Computer)
BIH52, BIPH52, MPH52 & MH52 Series (With M2000 Computer)

Precaution

Cooking oil temperatures will cause severe skin burns.

When
Twice Monthly

Tools
Digital thermometer with fry vat probe.

Check Calibration (With MACC100, M100A, M100B or M2000 Computer).

Verify the calibration of the digital thermometer by following the re-calibration instructions in the Non-Scheduled Maintenance section of the digital thermometer *Equipment Manual*.

1. Press the  (MACC100A and M100A) or  (M100B and M2000) button to turn the cooking computer to ON and set it to the product to be cooked in the vat.
2. Allow the vat to cycle OFF after reaching the cooking temperature.
3. The cooking oil should be at the normal (upper) oil-level line at cooking temperature. Add or remove cooking oil as needed. All cooking oil should be melted before proceeding or remove cooking oil as needed.
4. Allow the vat to cycle ON and OFF three (3) times.
5. Insert the fry vat probe into the cooking oil to within one (1) inch of the fryer temperature-probe tip, approximately 3" (7.6 cm) below the surface.
6. Allow the digital thermometer readout to stabilize.
7. To check calibration, press the temperature display switch in the following manner:
   a. Full-vat: Press the  button and compare the computer read out with the digital thermometer read out.
   b. Split-vat: Repeat above steps 6 through 8a for each side.
9. The cooking oil temperature should be within ± 5°F (±3°C) of the computer display.
10. If the cooking oil temperature is within ±5° (±3°C), calibration is complete. Press the  button, them press the  (MACC100A and M100A) or  (M100B and M2000) button to exit calibration check.
11. If not within ± 5°F (±3°C) call service technician.

Continued from previous page.

When
Twice Monthly

Tools
Digital thermometer with fry vat probe, 1/8" (3 mm) flat-blade screwdriver, Pro Fry computer.

Check Calibration (With MACC100, M100A, M100B or M2000 Computer).

12. Note: The computer should rarely be out of the ±5°F (±3°C) range, as it is preset at the factory.
13. Repeat all the above steps for remaining fryers.

Check Calibration (With Thermostat Controller Only)

1. Turn vat ON and set the thermostat knob to the correct cooking temperature.
2. Allow the vat to cycle OFF after reaching the cooking temperature.
3. The cooking oil should be at the normal (upper) oil-level line at cooking temperature. Add or remove cooking oil as needed. All cooking oil should be melted before proceeding.
4. Insert the fry vat probe into the cooking oil to within one (1) inch of the fryer temperature-probe tip, approximately 3" (7.6 cm) below the surface. If using Pro Fry computer display temperature PC # 326/327 or NCC #1540/1541, the computer probe should be used.
5. Allow the vat to cycle ON and OFF three times.
6. After the stabilizing period, the instant vat cycles ON for the fourth time (as noted by the fryer heat light turning ON) the cooking oil temperature should be within ±5°F (±3°C) of the thermostat setting.
7. If it is within ±5°F (±3°C), calibration is complete.
8. If not, adjustments can be made by:
    a. Locating temperature control knob set screw.
    b. Using a 1/8" (3 mm) flat-blade screwdriver, loosen the setscrew until the knob rotates on the insert inside the knob. Rotate the knob on the insert CLOCKWISE to INCREASE the temperature setting and COUNTER-CLOCKWISE TO DECREASE.
    c. Carefully hold the knob and tighten the setscrew using the 1/8" (3 mm) flat-blade screwdriver. Do not over tighten the setscrews.
9. Repeat Steps 1 through 9 for remaining fryers.

Pictures and additional information:
Corresponding Chapter of Equipment Manual

Fryers

CARD NO. 14A

Frymaster Electric & Gas Fryers

Frymaster Electric Fryer Models:

BIMH14 & MACH14 Series (With Thermostat Controller)
BIMH14 & MACH14 Series (With MACC100 Computer)
BIMH14 & MACH14 Series (With MACC100A Computer)
BIH14 & MH14 Series (With M100A Computer)
BIH14 & MH14 Series (With M100B Computer)
BIH14, BIPH14, MPH14 & MH14 Series (With M2000 Computer)

Frymaster Gas Fryer Models:

BIMH52 & MACH52 Series (With Thermostat Controller)
BIMH52 & MACH52 Series (With MACC100 Computer)
BIMH52 & MACH52 Series (With M100A Computer)
BIMH52 & MACH52 Series (With MACC100A Computer)
BIH52 & MH52 Series (With M100B Computer)
BIH52, BIPH52, MPH52 & MH52 Series (With M2000 Computer)

Precaution

Cooking oil temperatures will cause severe skin burns.

HAZARD COMMUNICATION STANDARD (HCS) – The procedure(s) in this manual include the use of chemical products. These chemical products will be highlighted with italic letters followed by the abbreviation (HCS). See Hazard Communication Standard (HCS) manual for the appropriate Material Safety Data Sheet(s)

When
Weekly

Tools
McD All Purpose Concentrate (A.P.C.) (HCS), towels, nylon pot brush, bucket, mop, putty knife, high/low brush.

Clean Behind Fryers (All Frymaster Models).

Purpose:

The purpose of cleaning behind the fryer weekly is to prevent significant grease buildup. This also meets McDonald's cleanliness standards. Not cleaning behind the fryers on a weekly basis could become a fire hazard to your restaurant.

1. Turn all fryer power switches to "OFF".
2. Remove stainless steel grease trough located below the grease filters by lifting it off the holding screws and pour all the grease into the cooking oil removal cart.
3. Gas Fryers - Shut OFF the gas supply using the manual gas shut-off valve. Then disconnect the gas line from the fryer.

   Caution: Do not use the quick-disconnect connection to shut off the gas supply to fryers and grills. Use the manual gas shut-off valve for that piece of equipment. If the piece of equipment does not have a manual gas shut-off, one must be installed. The manual gas shut-off should be located on the supply line before the quick-disconnect connection for the piece of equipment.
4. Release locks on fryer wheels.

   Caution: Cooking oil in the vats may be hot and may splash when moving fryer.
5. Lift front of fryer capping piece (if installed) to allow backsplash to clear filter shelf.
6. Carefully roll the fryer away from firewall far enough for capping piece backsplash (if installed) to clear the filter shelf.
7. Secure capping piece of fryer.

Continued from previous page.

Clean Behind Fryers (All Frymaster Models).

8. Place vat covers over all vats.
9. Remove fryer far enough to get behind the fryer.
10. Disconnect electrical cord(s) from the receptacle.

    Note: Do not disconnect cord by pulling on cord! Disconnect by pulling plug out of the receptacle only!
11. Remove grease filters from exhaust hood. Take to back sink for soaking in a hot solution of *McD A.P.C. (HCS)* from the sink proportioner.
12. Using a putty knife, scrape off all soft grease and hard carbon from area behind the fryer using the following sequence:

    Caution: Be careful NOT to break the Fire Protection FUSIBLE LINK in lower center area of stack. This will activate the fire extinguishing system.

    a. Accessible parts of stack.
    b. Back of hood.
    c. Sides of hood.
    d. Grease filter recess area.
    e. Flue restricter (gas only).
    f. All sheet metal around fryer.
    g. Removable gravity blade (gas only).
    h. Seal angle (gas only).
    i. Standoff piece.
    j. Fryer stand.

    Caution: Do not drop any soft grease and hard carbon into the fryer flue passage.
13. Using a hot solution of *McD A.P.C. (HCS)* from the sink proportioner, a nylon pot brush and the high/low brush, scrub all the areas listed in order in Step 12 including the floor.
14. Wipe all areas with towels until clean and dry.
15. Have manager inspect and approve cleaning before proceeding.
16. Using nylon pot brush and a hot solution of *McD A.P.C. (HCS)* from the sink proportioner in a bucket, wash the legs and wheels. Wipe dry.
17. Using a mop and a hot solution of *McD A.P.C. (HCS)* from the sink proportioner, mop entire floor area around fryer.

    Note: Make sure all surfaces are dry before proceeding.

    Caution: Cooking oil in vat may be hot and may splash when moving fryer.
18. Carefully roll fryer back close enough to connect electrical cord(s). After plugging in cords, roll fryer close to the filter shelf.
19. Remove the vat covers from all vats.
20. Lift front of fryer capping piece until back splash clears the filter shelf while rolling fryer into its normal position.
21. Gas Fryers – Check both ends of gas quick-disconnect connections for grease and wipe off if necessary.
22. Gas Fryers – Connect gas coupling.

    Caution: Ensure gas coupling is fully interlocked.
23. Lock wheels in place, and install grease filters and grease troughs.
24. Gas Fryers – Turn ON the gas supply using the manual gas shut-off valve. Then re-light the burners. Once the burners ignite, turn the controller OFF.

Replace Filter System O-Rings (BIMH, BIPH and BIH Models Only)

When
Quarterly

Tools
Towels, Appropriate O-rings. (For **Footprint III systems**, use 1 each Part No. 816-0181. For **Footprint II** systems, use 1 each Part No. 816-0117, and 2 each Part No. 826-1392).

Caution: O-Rings should be changed only when the filter pan is completely empty, and the unit is cool.

1. Pull filter assembly from the cabinet.
2. Remove empty filter pan from the filter base (for Footprint II system, lift inner pan out of the outer pan).
3. Remove O-ring from the check valve assembly at bottom of pan, and replace with new O-ring (Part No. 816-0181). (For Footprint II system, remove inner pan O-ring and replace with new O-ring Part No. 816-0117, and remove the two O-rings from around the oil pump disconnect tube, and install 2 each Part No. 826-1392.)

   Note: These O-rings are specifically manufactured for use with hot cooking oils. Generic O-rings cannot be used in this application.

Boil-out Fryer Pots (With Thermostat Controller or MACC100 Computer Only)

When
Semi-Annually (**Gas Fryers Only**)

Quarterly (**Electric Fryers Only**)

Tools
Protective gloves, apron, goggles, *McD All Purpose Concentrate (A.P.C.) (HCS)*, cooking oil disposal cart, sealable metal bucket (5 gallon) (19 liter), nylon pot brush, nylon scrubbing pad and *McD Heavy duty Degreaser (HCS)*.

Caution: Use protective goggles, aprons and gloves for all of the steps in this procedure.

Caution: Only boil-out one fryer at a time.

Note: To prevent accidental tripping of the Ansul system, grease filters should be in place, with at least one vat in operation to ensure the exhaust fan stays on.

1. Turn power ON/OFF switch to “OFF”. Remove filter pan from fryer cabinet.
2. Pull the swivel drain spout (if so equipped) outward to a suitable position to drain cooking oil into the filter pan or cooking oil disposal cart.
3. Place the filter pan or cooking oil disposal cart under the drain spout.
4. Carefully open the drain valve of the fryer to be boiled out and allow the cooking oil to drain from fry vat. Flush out any pieces of fried food and sediment.
5. Close the drain valve and very carefully pour *McD Heavy duty Degreaser (HCS)* (2 full gallons (8-liters) per full-vat, or 1 gallon (4-liters) per split-vat section) into fryer pot without splattering.
6. Remove fryer capping piece assembly (if so equipped) to expose carbon build-up.
7. Finish filling the vat to the normal shortening level line with a hot solution of *McD A.P.C. (HCS)* drawn from the sink proportioner (the use of HOT water will reduce warm-up time).
8. Fryers equipped with MACC100 Computer, press the  button to turn computer ON, then set to BOIL-OUT program.

   Note: Basket support rack must be in place in the frypot.

   Note: Solution will heat up to simmer condition and the temperature will be maintained at 195ºF (91ºC).
9. Allow fryer to operate in BOIL-OUT program for one hour.
10. If fryer is equipped with Thermostat Controller, turn power switch to “ON” and set the temperature dial to the lowest setting.
11. Bring to a soft, rolling simmer for approximately one hour. DO NOT hard boil.

    Caution: NEVER LEAVE THE FRYER UNATTENDED. Necessary boiling time may vary depending on condition of vat.
12. Insert fry baskets to be cleaned into the boiling solution. Remove, when clean, and rinse thoroughly.

Continued from previous page.

Boil-out Fryer Pots (With Thermostat Controller or MACC100 Computer Only)

Caution: Do not clean any aluminum parts in this solution.

13. Using the clean-out rod, remove fry basket support rack and rinse thoroughly in hot water.

    Caution: Support rack is hot when removed from vat. Do not touch with unprotected hands.

14. Using a nylon pot brush, scrub tank side, front and back walls, and top areas to remove remaining carbon deposits, being careful not to splash.

15. Turn the power switch to "OFF".

16. Place a 5-gallon (19-liter) grease bucket under the fryer drain spout. Open drain valve slowly, allowing solution to flow slowly into bucket.

    Note: Place only 2- or 3-gallons (8- or 11-liters) of solution into container at a time. (This solution may be reused in another fryer.)

    Caution: Do not splash solution on skin or clothing. Bucket and solution will be hot.

17. If boil out solution is to be used in another fryer, use several containers to store the solution until ready to proceed with the next fryer vat. If boil-out solution is to be discarded, pour solution into sink drain.

    Note: If boil-out compound is to be used in another fryer, use within 3 hours or discard.

18. Using a 5 gallon (19 liter) grease bucket, draw 3 gallons (11 liters) of *McD A.P.C. (HCS)* from the sink proportioner. If a sink proportioner is not being used, mix 6 fluid ounces (3/4 cups/177 ml) of *McD A.P.C. (HCS)* to 3-gallons (11-liters) of warm water and pour solution into fryer vat.

19. Using a nylon pot brush, scrub tank side, front, back walls and top areas to remove remaining carbon deposits.

20. Place bucket under drain valve and open drain valve slowly to drain dirty solution out.

    Note: Do not place more than 2-or 3-gallons (8- or 11-liters) of solution into bucket at a time.

    Caution: Do not drain boil-out solution or water into the built-in filtration filter pan or the cooking oil disposal cart.

    Caution: Do not splash solution on skin or clothing. Bucket and solution will be hot.

21. Remove bucket and discard solution into sink drain.

22. Place bucket under fryer drain valve and open valve.

    Note: If there is any carbon left in the vat, clean it now with nylon scouring pad, then rinse and drain vat.

23. Rinse fryer vat thoroughly TWO TIMES with warm (100ºF/38ºC) water and wipe with damp towel. Close the fryer drain valve.

24. Thoroughly dry inside fryer vat, especially in the drain valve area.

25. Using proper procedure, fill vat with proper amount of cooking oil.

26. Place basket support racks into cool oil (or on top of cooking oil).

27. After cooking oil has melted down, skim off any particles of carbon floating on the surface of cooking oil.

28. Repeat procedures for each remaining vat.

29. Season baskets and racks in fresh cooking oil prior to use (approximately 2 minutes at cooking temperature).

Continued from previous page.

When
Semi-Annually (**Gas Fryers Only**)

Quarterly (**Electric Fryers Only**)

Tools
Protective gloves, apron, goggles, *McD All Purpose Concentrate (A.P.C.) (HCS)*, cooking oil disposal cart, sealable metal bucket (5 gallon) (19 liter), nylon pot brush, nylon scrubbing pad and *McD Heavy duty Degreaser (HCS)*.

Boil-out Fryer Pots (With Thermostat Controller or MACC100 Computer Only)

30. Boil-out is complete.
31. Push the swivel drain spout (if so equipped) back inside the fryer cabinet and carefully roll the filter pan back into the cabinet. (Some FootPrint II filter systems have a green HEATER ON light which will illuminate when the pan is properly positioned in the cabinet.)

Boil-out Fryer Pots (With MACC100A, M100A and M100B Computer Only)

Caution: Use protective goggles, aprons and gloves for all of the steps in this procedure.

Caution: Only boil out one fryer at a time.

Note: To prevent accidental tripping of the Ansul system, grease filters should be in place, with at least one vat in operation to ensure the exhaust fan stays on.

1. Press the (MACC100A and M100A) or (M100B) button to turn fryer OFF. Remove filter pan from fryer cabinet.
2. Pull the swivel drain spout (if so equipped) outward to a suitable position to drain cooking oil into the filter pan or cooking oil disposal cart.
3. Place the filter pan or cooking oil disposal cart under the drain spout.
4. Carefully open the drain valve of the fryer to be boiled out and allow the cooking oil to drain from fry vat. Flush out any pieces of fried food and sediment.
5. Close the drain valve and very carefully pour *McD Heavy duty Degreaser (HCS)* (2 full gallons (8-liters) per full-vat, or 1 gallon (4-liters) per split-vat section) into fryer pot without splattering.
6. Remove fryer capping piece assembly (if so equipped) to expose carbon build-up.
7. Finish filling the vat to the normal shortening level line with a hot solution of *McD A.P.C. (HCS)* drawn from the sink proportioner (the use of HOT water will reduce warm-up time).
8. Press the (MACC100A and M100A) or (M100B) button to turn fryer ON, then set menu to “BOIL-OUT.

   Note: Basket support rack must be in place in the frypot.

   Note: Solution will heat up to simmer condition and the temperature will be maintained at 195ºF (91ºC).
9. Allow fryer to operate in BOIL-OUT program for one hour.
10. Bring to a soft rolling simmer for approximately one hour. DO NOT hard boil.

    Caution: NEVER LEAVE THE FRYER UNATTENDED. Necessary boiling time may vary depending on condition of vat.
11. Insert fry baskets to be cleaned into the boiling solution. Remove, when clean, and rinse thoroughly.
12. Press the (MACC100A and M100A) or (M100B) button to turn fryer OFF.
13. Place a 5-gallon (19-liter) grease bucket under the fryer drain spout. Open drain valve slowly, allowing solution to flow slowly into bucket.

    Note: Place only 2- or 3-gallons (8- or 11-liters) of solution into container at a time. (This solution may be reused in another fryer.)

    Caution: Do not splash solution on skin or clothing. Bucket and solution will be hot.

Continued from previous page.

Boil-out Fryer Pots (With MACC100A, M100A and M100B Computer Only)

14. If boil out solution is to be used in another fryer, use several containers to store the solution until ready to proceed with the next fryer vat. If boil-out solution is to be discarded, pour solution into sink drain.

    Note: If boil-out compound is to be used in another fryer, use within 3 hours or discard.

15. Using a 5 gallon (19 liter) grease bucket, draw 3 gallons (11 liters) of *McD A.P.C. (HCS)* from the sink proportioner. If a sink proportioner is not being used, mix 6 fluid ounces (3/4 cups/177 ml) of *McD A.P.C. (HCS)* to 3-gallons (11-liters) of warm water and pour solution into fryer vat.
16. Using a nylon pot brush, scrub tank side, front, back walls and top areas to remove remaining carbon deposits.
17. Place bucket under drain valve and open drain valve slowly to drain dirty solution out.

    Note: Do not place more than 2-or 3-gallons (8- or 11-liters) of solution into bucket at a time.

    Caution: Do not drain boil-out solution or water into the built-in filtration filter pan or the cooking oil disposal cart.

    Caution: Do not splash solution on skin or clothing. Bucket and solution will be hot.

18. Remove bucket and discard solution into sink drain.
19. Place bucket under fryer drain valve and open valve.

    Note: If there is any carbon left in the vat, clean it now with nylon scouring pad, then rinse and drain vat.

20. Rinse fryer vat thoroughly TWO TIMES with warm (100ºF/38ºC) water and wipe with damp towel. Close the fryer drain valve.
21. Thoroughly dry inside fryer vat, especially in the drain valve area.
22. Using proper procedure, fill vat with proper amount of cooking oil.
23. Place basket support racks into cool oil (or on top of cooking oil).
24. After cooking oil has melted down, skim off any particles of carbon floating on the surface of cooking oil.
25. Repeat procedures for each remaining vat.
26. Season baskets and racks in fresh cooking oil prior to use (approximately 2 minutes at cooking temperature).
27. Boil-out is complete.

When
Semi-Annually (**Gas Fryers Only**)

Quarterly (**Electric Fryers Only**)

Tools
Protective gloves, apron, goggles, *McD All Purpose Concentrate (A.P.C.) (HCS)*, cooking oil disposal cart, sealable metal bucket (5 gallon) (19 liter), nylon pot brush, nylon scrubbing pad and *McD Heavy duty Degreaser (HCS)*.

Boil-out Fryer Pots (With M2000 Computer Only)

Boil-out must be programmed into the computer prior to the first boil-out procedure. Program the computer as follows:

1. Press the ⏻ button to turn fryer OFF.
2. Press the ✔ button. The left display shows code.
3. Enter the code  (1650). Press the  button to back through programmed items/numbered products until boil out (#40 product position) is reached.
4. Press a gray product  button to store boil out. The green LED of the button pressed will illuminate.

Continued from previous page.

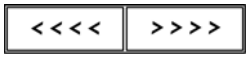
5. Press the ⏻ button to turn fryer OFF. Proceed with boil-out procedure.

Boil-out Fryer Pots (With M2000 Computer Only)

Caution: Use protective goggles, aprons and gloves for all of the steps in this procedure.

Caution: Only boil out one fryer at a time.

Note: To prevent accidental tripping of the Ansul system, grease filters should be in place, with at least one vat in operation to ensure the exhaust fan stays on.

1. Press the ⏻ button to turn fryer OFF. Remove filter pan from fryer cabinet.
2. Pull the swivel drain spout (if so equipped) outward to a suitable position to drain cooking oil into the filter pan or cooking oil disposal cart.
3. Place the filter pan or cooking oil disposal cart under the drain spout.
4. Carefully open the drain valve of the fryer to be boiled out and allow the cooking oil to drain from fry vat. Flush out any pieces of fried food and sediment.
5. Close the drain valve and very carefully pour *McD Heavy duty Degreaser (HCS)* (2 full gallons (8-liters) per full-vat, or 1 gallon (4-liters) per split-vat section) into fryer pot without splattering.
6. Remove fryer capping piece assembly (if so equipped) to expose carbon build-up.
7. Finish filling the vat to the normal shortening level line with a hot solution of *McD A.P.C. (HCS)* drawn from the sink proportioner (the use of HOT water will reduce warm-up time).
8. Press the ⏻ to turn fryer ON. Computer will display `low temp`.
9. Press the gray product  button used to store boil out programming.
10. The computer will display  or `start boil out`.
11. Press and hold either cook channel  button under the vat being boiled out. Hold the button for approximately 5 seconds, and then release. `Boil out` should appear in the display over button. The cook channel will be dedicated to boil out until changed, and have a setpoint of 195°F (91°C).
12. Press the cook channel  button under the `boil out` display to start boil out.

    Note: Basket support rack must be in place in the frypot.

    Note: Solution will heat up to simmer condition and the temperature will be maintained at 195ºF (91ºC).
13. Allow fryer to operate in BOIL-OUT program for one hour.
14. Bring to a soft rolling simmer for approximately one hour. DO NOT hard boil.

    Caution: NEVER LEAVE THE FRYER UNATTENDED. Necessary boiling time may vary depending on condition of vat.
15. Insert fry baskets to be cleaned into the boiling solution. Remove, when clean, and rinse thoroughly.
16. Press the ⏻ to turn fryer OFF.
17. Place a 5-gallon (19-liter) grease bucket under the fryer drain spout. Open drain valve slowly, allowing solution to flow slowly into bucket.

    Note: Place only 2- or 3-gallons (8- or 11-liters) of solution into container at a time. (This solution may be reused in another fryer.)

    Caution: Do not splash solution on skin or clothing. Bucket and solution will be hot.

Continued from previous page.

Boil-out Fryer Pots (With M2000 Computer Only)

18. If boil out solution is to be used in another fryer, use several containers to store the solution until ready to proceed with the next fryer vat. If boil-out solution is to be discarded, pour solution into sink drain.

    Note: If boil-out compound is to be used in another fryer, use within 3 hours or discard.

19. Using a 5 gallon (19 liter) grease bucket, draw 3 gallons (11 liters) of *McD A.P.C. (HCS)* from the sink proportioner. If a sink proportioner is not being used, mix 6 fluid ounces (3/4 cups/177 ml) of *McD A.P.C. (HCS)* to 3-gallons (11-liters) of warm water and pour solution into fryer vat.
20. Using a nylon pot brush, scrub tank side, front, back walls and top areas to remove remaining carbon deposits.
21. Place bucket under drain valve and open drain valve slowly to drain dirty solution out.

    Note: Do not place more than 2-or 3-gallons (8- or 11-liters) of solution into bucket at a time.

    Caution: Do not drain boil-out solution or water into the built-in filtration filter pan or the cooking oil disposal cart.

    Caution: Do not splash solution on skin or clothing. Bucket and solution will be hot.

22. Remove bucket and discard solution into sink drain.
23. Place bucket under fryer drain valve and open valve.

    Note: If there is any carbon left in the vat, clean it now with nylon scouring pad, then rinse and drain vat.

24. Rinse fryer vat thoroughly TWO TIMES with warm (100ºF/38ºC) water and wipe with damp towel. Close the fryer drain valve.
25. Thoroughly dry inside fryer vat, especially in the drain valve area.
26. Using proper procedure, fill vat with proper amount of cooking oil.
27. Place basket support racks into cool oil (or on top of cooking oil).
28. After cooking oil has melted down, skim off any particles of carbon floating on the surface of cooking oil.
29. Repeat procedures for each remaining vat.
30. Season baskets and racks in fresh cooking oil prior to use (approximately 2 minutes at cooking temperature).
31. Boil-out is complete.

Pictures and additional information:
Corresponding Chapter of Equipment Manual

Fryers

CARD NO. 15

Frymaster Electric & Gas Fryers

Frymaster Electric Fryer Models:

BIMH14 & MACH14 Series (With Thermostat Controller)
BIMH14 & MACH14 Series (With MACC100 Computer)
BIMH14 & MACH14 Series (With MACC100A Computer)
BIH14 & MH14 Series (With M100A Computer)
BIH14 & MH14 Series (With M100B Computer)
BIH14, BIPH14, MPH14 & MH14 Series (With M2000 Computer)

Frymaster Gas Fryer Models:

BIMH52 & MACH52 Series (With Thermostat Controller)
BIMH52 & MACH52 Series (With MACC100 Computer)
BIMH52 & MACH52 Series (With M100A Computer)
BIMH52 & MACH52 Series (With MACC100A Computer)
BIH52 & MH52 Series (With M100B Computer)
BIH52, BIPH52, MPH52 & MH52 Series (With M2000 Computer)

Precaution

Cooking oil temperatures will cause severe skin burns.

When
Monthly

Tools
Pad, pen.

Recovery Check Time (With MACC100 computer only.)

1. Grease filters should be in place and properly cleaned.
2. Turn vat controller/computer "ON" and let cooking oil stabilize at cooking temperature.
3. Allow the fryer to cycle OFF after reaching the cooking temperature.
4. The cooking oil should be at the normal (upper) oil-level line at cooking temperature. Add or remove cooking oil as needed.

   Note: All cooking oil should be melted before proceeding.

5. Access the recovery check program by pressing the ➡ button, or, ⬅ or ➡ button on a split-vat, depending on which vat is being checked, until the display reads (alternating) "xxx SEC" and the date (displayed xx/xx/xx) from the previous test.

   Note: Only one side of a split-vat is to be checked at a time.

6. Activate the date change display by pressing the following:

   a. Full-vat: Right display operate button (1) or (2).

   b. Split-vat: Left display operate button (1) or (2), or right display operate button (1) or (2).

7. To change the date: press button (1) of left display to change the month. Press button (2) of left display to change the date. Press button (1) of right display to change the tens (year), then press button (2) of right display to change the ones (year).

   Note: A date must be displayed to perform a recovery time check. If no date is displayed, a date must be entered as described above.

Continued from previous page.

Recovery Check Time (With MACC100 computer only.)

8. Start the recovery check by touching the following:

   a. Full-vat: Right button.

   b. Split-vat: Left button for the left or right button for the right side.

   Note: The display will show "REC xxx F" (or xxx C) indicating the actual vat temperature.

9. When the display shows a vat temperature of 270°F (132°C) and is automatically stabilized at that temperature, agitate the cooking oil for one minute.
10. The computer automatically starts the time check when the vat temperature exceeds 274°F (134°C). Do not agitate further.
11. At the end of the check, the display will show the recovery time as "xxx SEC". The computer again controls the fryer for a vat temperature equal to the set temperature.
12. The recover test information may be recalled at any time by touching the respective button.

    Note: Recovery time should be less than 145 seconds for a gas fryer and less than 100 seconds for an electric fryer.

13. If the required recovery time cannot be attained, call service representative.
14. To exit the recovery time check, press the twice, first turning the computer OFF, then turning the computer back ON.
15. Repeat Steps 1 through 15 for each additional fryer until all have been checked. Recovery time check is complete.

When
Monthly

Tools
Stopwatch, digital thermometer with fry vat probe or Pro Fry computer, probe holder, paper, pen.

Recovery Check Time (With Thermostat Controller only.)

1. Grease filters should be in place and properly cleaned.
2. Turn vat controller “ON” and let cooking oil stabilize at cooking temperature.
3. Allow the fryer to cycle OFF after reaching the cooking temperature.
4. The cooking oil should be at the normal (upper) oil-level line at cooking temperature. Add or remove cooking oil as needed. All cooking oil should be melted before proceeding.
5. Insert the fry vat probe at the rear of the frypot, to within one (1) inch of the tip of the computer probe. If using the Pro Fry computer, display temperature PC# 326/327 or NCC #1540/1541, the computer probe should be used.
6. Turn the thermostat knob to 270°F (132°C) and allow vat to cool for approximately 30 minutes.
7. When the display reads 270°F (132°C), turn the thermostat knob to 375°F (191°C) and begin timing.
8. Record the time it takes for the cooking oil to reach 320°F (160°C).

   Note: Recovery time should be less than 145 seconds for a gas fryer and less than 100 seconds for an electric fryer.

Continued from previous page.

Recovery Check Time (With Thermostat Controller only.)

9. If the required recovery time cannot be attained, call service representative.

   Caution: Turn thermostat knob back to normal cooking temperature before putting fryer back in service.

When
Monthly

Tools
Paper, pen.

Recovery Check Time (With MACC100A, M100A, and M100B Computer only.)

Note: With the MACC100A, M-100A, and M100B cooking computers, Recovery Time Checks are performed automatically and updated each time the vat temperature rises from 250°F (121°C) to above 320°F (160°C)**.**

1. Turn the fry vat ON by pressing the button (MACC100A and M100A), or the button (M100B). The previously cooked product should be displayed on the computer.
2. To display the most recent recovery test time, press the button in the following manner:

Full-vat:	Left or right button.
Split-vat, left:	Left button.
Split-vat, right:	Right button.

3. Record the recovery time.

   Note: Recovery time should be less than 145 seconds for a gas fryer (**less than 155 seconds for M100B computers only**), and less than 100 seconds for an electric fryer. If time is less than 145 seconds for gas (**155 seconds—M100B only**), or 100 for electric fryers, recovery time is acceptable. If the time displayed is greater than the required time, refer to the scratch calibration procedure on this card or the Fryer section of the Equipment Manual for Troubleshooting Charts and check the following:

   a. Grease filter condition
   b. Cooking oil level
   c. (Gas fryers) Proper placement of seal angle, gravity blade and standoff
   d. (Gas fryers) Air flow, combustion air blower
   e. (Gas fryers) Radiant burner condition
   f. (Electric fryers) Large power plug plugged in properly.

4. Repeat steps 1 through 3 for each additional vat.
5. Recovery time check is complete.

When
Monthly

Tools
Paper, pen.

Recovery Check Time (With M2000 Computer only.)

Note: With the M2000 cooking computer, Recovery Time Checks are performed automatically and updated each time the vat temperature rises from 250°F (121°C) to above 320°F (160°C)**.**

1. Turn the fry vat OFF by pressing the button. The computer should display OFF. The computer must be off to enter the programming mode.
2. Enter the programming mode by pressing the button. CODE will show in the left display.
3. Enter the code (1652). The most current recovery time will appear in both displays.

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Recovery Check Time (With M2000 Computer only.)

4. Record the recovery time.

   Note: Recovery time should be less than 145 seconds for a gas fryer, and less than 100 seconds for an electric fryer. If time is less than 145 seconds for gas, or 100 for electric fryers, recovery time is acceptable. If the time displayed is greater than the required time, refer to the scratch calibration procedure on this card or the Fryer section of the Equipment Manual for Troubleshooting Charts and check the following:

   g. Grease filter condition
   h. Cooking oil level
   i. (Gas fryers) Proper placement of seal angle, gravity blade and standoff
   j. (Gas fryers) Air flow, combustion air blower
   k. (Gas fryers) Radiant burner condition
   l. (Electric fryers) Large power plug plugged in properly.

6. Repeat steps 1 through 3 for each additional vat.

7. Recovery time check is complete.

When
Monthly

Tools
None

High-Limit Check (With MACC100 Computer only.)

Note: Conduct this test when fryer will not be needed for about 1 hour, and when the cooking oil is due to be changed. Discard the cooking oil after completing this check.

Note: Grease filters must be in place and exhaust fans must be on during entire high-limit control check procedure.

1. Press  to turn the vat computer “ON” and let cooking oil stabilize at a normal cooking temperature, then wait for the  light to go OFF.

2. The cooking oil level should cover the temperature and high-limit probes. Add cooking oil if necessary.

   Caution: If, after completing both high-limit tests you find only the second high-limit operates properly, the vat can be used if it is absolutely necessary, but with extreme care. The computer must be replaced immediately after this period of necessity. If the second high-limit does not work the vat must NOT be used until the second high-limit has been replaced. If the first high-limit feature activates at less than 400°F (204°C), do not replace the computer unless it interferes with proper cooking. If the second high-limit activates at less than 425°F (218°C), do not replace it unless it prevents you from checking the first high-limit feature.

   Note: The high-limit test program allows the operator to test the trip-out temperature of the first and second high-limits. The first high-limit feature is a function performed by the computer and automatically resets when the cooking oil cools below its trip point of 400°F (204°C). The second high-limit automatically resets when the cooking oil has cooled to 400°F (204°C) or less. To perform the high-limit test, the vat must be operating normally and the display reading "HI-LIMIT" on either display for a full- or split-vat, depending on the test being performed. **Only one side of a split-vat is to be checked at a time.** The test can be performed any time the vat is turned ON except if the vat is in the melt or cooking cycle.

3. To start the "first high-limit test", press the  button and the (1) button simultaneously, then release the  button, but continue to depress the (1) button.

   Result: The vat will heat while the (1) button is depressed continuously. The display will show the actual temperature during the test. At 410°F (210°C) ±10°F (±5°C), the first high-limit feature will trip. The display will show (alternating) HI-1 and the actual temperature, i.e. "HI-1-400°F (204°C)" until the vat cools to 400°F (204°C), or less. The vat will automatically reactivate below 400°F (204°C).

When
Monthly

Tools
None

High-Limit Check (With MACC100 Computer only.)

Note: When the display shows "HI-1-412°F (211°C)", or the temperature exceeds 425°F (218°C), release the (1) button.

4. To start the "second high-limit test", press and hold the (2) button. This display will show the actual temperature during the test. The mechanical second high-limit will trip between 425°F (218°C) and 450°F (232°C).

   Result: When the second high-limit trips, the display will read (alternating) "HI-2" and the actual temperature.

   Caution: When display shows "HI-2" or the temperature exceeds 450°F (232°C), release the (2) button.

   Note: The display will continue to read "HI-2" until the fryer has cooked to 400°F (204°C) or less and the vat is reactivated by pressing  , turning the computer OFF for 30 seconds, then pressing  to turn computer ON.

5. The computer will return to the operating mode and display the cooking program previously used, i.e. FR FRIES, PIES, NUGGETS, etc.
6. High-limit control check is complete.
7. Repeat same procedure for other vats.

   Caution: If the display shows "HI-2" "BAD", press  to turn the computer “OFF”. **Replace the computer immediately.**

When
Monthly

Tools
None.

High-Limit Check (With Thermostat Controller only.)

Note: Conduct this test when fryer will not be needed for about 1 hour, and when the cooking oil is due to be changed. Discard the cooking oil after completing this check

Note: Only one side of a split-vat is to be checked at a time.

Caution: Grease filters must be in place and exhaust fans must be ON during entire high-limit control check procedure.

1. The cooking oil should be at the normal (upper) oil-level line. Add cooking oil if necessary.
2. Remove the computer probe from the probe holder and replace it with fry vat probe.
3. Turn the vat power switch to ON and set thermostat knob to its highest setting, and wait for heating light to go OFF.

   Caution: If after completing both high-limit tests you find only the second high-limit operates properly, the vat can be used if it is absolutely necessary, but with extreme care. The controller must be replaced immediately after this period of necessity. If the second high-limit does not work, the vat must not be used until the second high-limit has been replaced. If the first high-limit feature activates at less than 400°F (204°C), do not replace the controller unless it interferes with proper cooking. If the second high-limit activates at less than 425°F (218°C), do not replace it unless it prevents you from checking the first high-limit feature.

4. Press and hold "first high-limit" position of the vat high-limit test switch.

   Result: Electrical element or gas burner turns OFF and "TROUBLE" light comes ON. Cooking oil temperature should be between 400° and 425°F (204° and 218°C).

5. Press and hold "second high-limit" position of the vat-limit test switch.

Continued from previous page.

High-Limit Check (With Thermostat Controller only.)

Note: When the trouble light comes ON, or the temperature exceeds 425°F (218°C), release switch.

Result: Electrical elements or gas burner turns OFF and the second high-limit will come ON. The cooking oil temperature should be between 425° and 450°F (218° and 232°C).

Caution: When the second high-limit light comes on or the temperature exceeds 450°F (232°C), release switch.

6. Turn the power switch to the "OFF" position. One vat must remain ON to ensure hood fan remains ON.
7. Remove the fry vat probe and reinstall the computer probe into the vat.
8. Allow cooking oil to cool for one hour before discarding. See statement on discarding.
9. High-limit check is complete. Repeat procedure for each remaining vat.

Caution: STATEMENT ON DISCARDING OIL—Hot cooking-oil is dangerous and will cause severe skin burns. Handle with extreme caution. When discarding old cooking oil, the cooking oil should be drained from the fryer into a cooking oil removal cart. The cart should then be taken to a grease barrel and pumped into the grease barrel to properly dispose of the old cooking oil.

When
Monthly

Tools
None.

High-Limit Check (With MACC100A, M100A, and M100B Computer only.)

Note: Conduct this test when the fryer will not be needed for about 1 hour, and when the cooking oil is due to be changed. Discard the cooking oil after completing this check.

Note: The cooking oil must be at a high enough level to cover the high-limit probe.

Note: Grease filters must be in place and exhaust fans must be on during entire high-limit control check procedure.

Note: The high-limit test program allows the operator to test the trip-out temperature of the first and second high-limit thermostats. The first high-limit feature is a function performed by the computer and automatically resets when the cooking oil cools below its trip point of 400°F (204°C). The second high-limit automatically resets when the cooking oil has cooled to 400°F (204°C) or less. To perform the high-limit test, the vat must be operating normally and the display reading "HI-LIMIT" on either display for a full- or split-vat, depending on the test being performed. **Only one side of a split-vat is to be checked at a time.** The test can be performed any time the vat is turned ON except if the vat is in the melt or cooking cycle.

1. Turn the fry vat ON by pressing the  button (MACC100A and M100A), or the  button (M100B) and allow cooking oil to stabilize at normal cooking temperature. Wait for the  light to go OFF before proceeding.

2. To access the "high-limit test", depress the  and  (left or right) buttons simultaneously <u>in the following sequences</u>:

Full-vat:	 and  button
Split-vat, left:	 and Left  buttons
Split-vat, right:	 and Right  buttons

3. To start the "first high-limit test", press and hold the button. The display should read "HI-LIMIT".

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High-Limit Check (With MACC100A, M100A, and M100B Computer only.)

Result: The light will illuminate and the display will show the actual temperature of the cooking oil. At 410°F (210°C) ± 10°F (6°C), the first high-limit feature will trip. The display will show (alternating) "HI-1" and the actual vat temperature.

Note: When the display shows (alternating) "HI-1" and the temperature or the temperature exceeds 425°F (218°C), release the 1 button.

Caution: If the temperature exceeds 425°F (218°C) without a "HI-1" display, the first high-limit warning is not functioning properly. Note this defect and continue this procedure to test the second high-limit.

4. To start the "second high-limit test", press and hold the 2 button.

   Result: The vat heat light will illuminate and the display will show the actual temperature during the test. The mechanical second high-limit should trip between 425° and 450°F (218° and 232°C). When the second high-limit trips, the display will read (alternating) "HI-2" and the actual temperature.

   Caution: When the display shows "HI-2" or the temperature exceeds 470°F (232°C), release the 2 button.

   Note: The display will continue to read "HI-2" until the fryer has cooled to 400°F (204°C) or less and the vat has then been reactivated by turning the computer “OFF” then back “ON”. The cooking program previously used will be displayed; i.e., FR FRIES, PIES, McNUGGETS, etc.

   Caution: If the display shows "HI-2" "BAD", press the (MACC100A and M100A) or (M100B) button to turn the computer “OFF”. REPLACE the mechanical second high-limit thermostat immediately.

5. High-limit control check is complete.

6. Repeat the same procedure for other vats.

   Caution: If after completing both high-limit tests you find only the second high-limit operates properly, the vat can be used if it is absolutely necessary, but with extreme care. The computer must be replaced immediately after this period of necessity. If the second high-limit does not work, the vat must not be used until the second high-limit has been replaced. If the first high-limit feature activates at less than 400°F (204°C), do not repair or replace the computer or controller unless it interferes with proper cooking. If the second high-limit activates at less than 425°F (218°C), do not replace it unless it prevents you from checking the first high-limit feature.

When
Monthly

Tools
None

High-Limit Check (With M2000 Computer only.)

Note: Conduct this test when the fryer will not be needed for about 1 hour, and when the cooking oil is due to be changed. Discard the cooking oil after completing this check.

Note: The cooking oil should be at the upper OIL LEVEL line. Add oil if necessary.

Note: Grease filters must be in place and exhaust fans must be on during entire high-limit control check procedure.

Note: The high-limit test program allows the operator to test the trip-out temperature of the first and second high-limit thermostats. The first high-limit feature is a function performed by the computer and must be reset by turning the computer OFF, then back ON. The second high-limit automatically resets when the cooking oil has cooled to below 350°F (177°C) or less.

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High-Limit Check (With M2000 Computer only.)

1. Turn the fry vat OFF by pressing the ⏻ button. The computer should display OFF. The computer must be off to enter the programming mode.
2. Enter the programming mode by pressing the ✓ button. CODE will show in the left display.
3. Enter the code (9999) to check high-limits for a full vat or right side of split pot. To test the left side of a split pot, enter the code (8888).

   Note: This test can only be conducted with the oil temperature above 180°F. If the shortening/oil temperature is below 180°F, the computer will display TOO COLD.
4. HI-LIMIT shows in the right display (left display for left-side split vat).
5. For high-limit test #1, press and hold the right (1) cook channel button (left ◀(1) cook channel button if testing the left side of a split pot).
6. The heat indicator should illuminate, indicating the fryer is calling for heat.
7. The right display will alternate between HI-LIMIT and the oil/shortening temperature until the temperature reaches 410°F (210°C). At 410°F (210°C), HI-1 is displayed, alternating with the current temperature. The heat indicator goes out, indicating that the fryer is no longer calling for heat. High-limit test #1 is complete.
8. For high-limit test #2, press and hold the right (2) cook channel button (left (2)▶ cook channel button if testing the left side of a split pot).
9. The right display will alternate between HI-LIMIT and the oil/shortening temperature until the mechanical high-limit opens (approximately 425°F (218°C). The right display will then show HI-2.
10. Failure of high-limit test #2 is indicated by an alternating display of HI-2 and BAD. Call for service immediately if this occurs.
11. Press ⏻ to clear the test and turn the computer off.

    Caution: If after completing both high-limit tests you find only the second high-limit operates properly, the vat can be used if it is absolutely necessary, but with extreme care. The computer must be replaced immediately after this period of necessity. If the second high-limit does not work, the vat must not be used until the second high-limit has been replaced. If the first high-limit feature activates at less than 410°F (204°C), do not repair or replace the computer or controller unless it interferes with proper cooking. If the second high-limit activates at less than 425°F (218°C), do not replace it unless it prevents you from checking the first high-limit feature.

When
Quarterly

Tools
Flat blade screwdriver, 7/16" (13 mm) open-end wrench, and multimeter (that measures DC microamps).

Scratch Calibration Check

(**Gas Fryers Only**) (Should be done by a qualified service person.)

Caution: Portions of fryer will be hot during this scratch calibration.

Note: Conduct this test when fryer will not be needed for about one hour.

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

   Result: Gas pressure must be 3.0" W.C. (76 mm W.C.) natural gas or 8.25" W.C. (210 mm W.C.) propane gas.

   Caution: If the pressure does not meet above requirements the fryer gas valve regulator must be adjusted by the service agency to obtain the correct pressure.

Continued from previous page.

Scratch Calibration Check

2. Remove gas valve vent tube. Clean and replace. See cleaning procedure in service manual.
3. Clean combustion air blower. See the service manual for cleaning procedure.
4. Conduct recovery test as outlined on this card. The recovery test procedure varies dependent upon the controller/computer model of your fryer.
5. If the vat does not meet the recovery specification, adjust the combustion air blower to obtain the proper recovery time.

   COMBUSTION AIR BLOWER ADJUSTMENT

   Note: Use a multimeter that measures DC microamps when making burner air adjustments.

   Note: Ensure proper gas pressure is set out of the gas regulator.
6. Connect the multimeter in series with the white flame sensor wire on the ignitor.
7. After fryer has completed the melt cycle, allow burner to operate for at least one minute.
8. Check for a 2.5 to 3.5 microamp reading on the multimeter. This reading should show at least 2.5 microamps. Adjust the combustion air-blower intake plate to obtain a maximum microamp reading on the multimeter.

   Note: Air adjustment must be made if a blue flame is observed through the burner viewing ports, or if there are dark spots on the burner face. After 90 seconds of continuous burner operation, the burner should glow bright orange-red. (For proper colors, see the "BURNER COLOR COMPARISON CHART" located inside the door of the fryer). If flame color is not correct, it is necessary to adjust the combustion air-blower air intake-plate.
9. To adjust the blower intake plate, loosen the locking nut(s) on the intake plate with a small adjustable wrench.
10. Adjust the plate opened or closed to obtain a maximum reading on the multimeter. When observing the burner through the viewing ports, an orange-red glow should be seen on the face of the burner. The ports are located directly above the spark ignitors.
11. When a maximum microamp reading and an orange-red glow have been obtained, tighten the intake plate locking nut(s) while holding the plate to prevent movement.

    Note: A blue flame observed through the burner viewing ports usually indicates insufficient air. Dark spots on the burner face indicate excess air.
12. Recheck the recovery time as outlined on this card.
13. If further combustion air adjustments are needed, repeat Steps 9 through 12 until the recovery time specification is met.
14. Repeat Steps 9 through 13 for each vat of the fryer.
15. Scratch calibration check is complete. Check remaining fryers.