

OPERATOR'S MANUAL



Model R200 Frozen Food Dispenser

Original Operating Instructions

089363-M

April 2020 (Original Publication)
(Updated 5/27/2026)

Complete this page for quick reference when service is required:

Taylor distributor: _____

Address: _____

Phone: _____

Service: _____

Parts: _____

Date of installation: _____

Information found on the data label:

Model Number: _____

Serial Number: _____

Electrical Specs: Voltage _____ Cycle _____

 Phase _____

Maximum Fuse Size: _____ A

Minimum Wire Ampacity: _____ A

Note: Continuing research results in steady improvements; therefore, information in this manual is subject to change without notice.

Note: Only instructions originating from the factory or its authorized translation representative(s) are considered to be the original set of instructions.

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089363-M

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Introduction

This manual contains important information on the proper installation, operation, and care of the RAM® R200 Frozen Food Dispenser. Following the instructions and procedures in this document will ensure that your Dispenser provides years of reliable service. If any problems with the Dispenser arise, this manual will also provide troubleshooting tips and service information.

Unpacking and Installation

Remove all packing material from the dispenser. Open the cabinet door. Disassemble, clean, sanitize, and dry the hopper and accumulator assemblies. Clean, sanitize, and dry the fry baskets. (see "Disassembly, Defrost, and Cleaning" on page 1-10). Reassemble all components (see "Dispenser Assembly" on page 1-7) for startup and operation).

The equipment must be installed by qualified personnel in accordance with the manufacturer's instructions. Local electrical installation and safety regulations must be observed. Before installing check that voltage and frequency on the data plate match the electrical supply.

Intended Use

The Frozen Food Dispenser must only be used for the temporary frozen storage and dispensing of non-meat based food products at commercial restaurants and similar locations. Any other use would be deemed as inappropriate. The Dispenser is designed for installation and use indoors in a restaurant environment protected from weather, excessive heat, excessive humidity, and salt air.

HAZARD COMMUNICATION STANDARD:

Hazard Communication Standard (HCS) procedures in this manual may include the use of chemical products. These chemical products will be highlighted with boldface letters followed by the abbreviation (HCS) in the text of the procedure. See the HCS Manual for the appropriate Material Safety Data Sheets (MSDS).

FCC Statement

WARNING: This machine generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications.

EMC Statement

This machine meets EMC directives:

- EN 55014-1:2006 + A1:2009
- EN55014-2:1997 + A1:2001 + A2:2008
Category II

Specifications

Electrical Requirements:

Domestic:

- 120VAC, 60 Hz, 7.8A, 1 phase

International:

- 220 - 240VAC, 50 Hz, 4.6A, 1 phase
- 220 - 240VAC, 60 Hz, 4.6A, 1 phase

Internal Circuit Breaker:

- 15A

Dimensions:

- 22.5 in. wide, 31 in. deep, 76.75 in. high
(57 cm x 79 cm x 195 cm)

Minimum Operating Clearance Shall be:

- 1 in. (2.6 cm) clearance on each side
- 2 in. (5 cm) clearance at the back
- Open to ceiling, minimum 24 in. (60 cm)

Weight:

- 339 lb. (154 kg)

Note: For reference only.

Hopper Capacity:

- 42 lb. (19.05 kg), weight may vary with product.

Operating Temperature:

- 5°F to 0°F (-15°C to -18°C) (recommended ambient operating temperature of 75°F [24°C])
- Climate Class= N

Refrigeration:

- Model R200: R-404A (12.5 oz.) (354.4 g)
- Model R200: R290 (5.15 oz) (146.0 g)

Maximum Operating Altitude and Safe Tilt:

- Maximum Altitude: 6,561 ft. (2,000 m),
Maximum Tilt = 10 degrees

Insulation Blowing Gas:

- HFO-1233ZD and HFO-1234ZE

Noise Emissions:

- < 70 dB (A)

Safety

Always follow these safety precautions when operating the Dispenser:



NOTICE! DO NOT operate this machine without reading this entire manual first. Failure to follow all of these operating instructions may result in damage to the machine, poor performance, health hazards, or personal injury.



IMPORTANT! *This machine is to be used only by trained personnel. It is not intended for use by children or people with reduced physical, sensory, or mental capabilities or lack of experience and knowledge. Where limited machine operation is allowed for public use, such as a self-serve application, supervision or instruction concerning the use of the machine by a person responsible for their safety is required. Children should be supervised to ensure that they do not play with the appliance.*



IMPORTANT! *Access to the service area of the machine must be restricted to persons having knowledge and practical experience with the machine, in particular as far as safety and hygiene are concerned.*



WARNING! DO NOT use a water jet to clean or rinse the machine. Failure to follow these instructions may result in serious electrical shock.



WARNING! Avoid injury.

- **DO NOT** operate the machine unless it is properly grounded.
- **DO NOT** operate the machine with larger fuses than specified on the machine's data label.
- All repairs should be performed by a Taylor service technician.
- The main power supplies to the machine must be disconnected prior to performing installation, repairs, or maintenance.
- Machines that are permanently connected to fixed wiring and for which leakage currents may exceed 10 mA, particularly when disconnected or not used for long periods, or during initial installation, shall have protective devices to protect against the leakage of current, such as a GFI, installed by the authorized personnel to the local codes.
- Stationary machines which are not equipped with a power cord and a plug or another device to disconnect the appliance from the power source must have an all-pole disconnecting device with a contact gap of at least 0.125 in. (3 mm) installed in the external installation.
- Supply cords used with this machine shall be oil-resistant, sheathed flexible cable not lighter than ordinary polychloroprene or other equivalent synthetic elastomer-sheathed cord (code designation 60245 IEC 57) installed with the proper cord anchorage to relieve conductors from strain, including twisting, at the terminals and protect the insulation of the conductors from abrasion.
- If the supply cord is damaged, it must be replaced by a Taylor service technician in order to avoid a hazard.

Failure to follow these instructions may result in electrocution. Contact your local authorized Taylor distributor for service.



CAUTION! This machine must be placed on a level surface. Use caution when moving the machine. Failure to comply may cause the machine to tip over and result in personal injury.



WARNING! Only install this machine in a location where its use and maintenance is restricted to trained personnel. Failure to comply may result in personal injury.



NOTICE! Cleaning and sanitizing schedules are governed by your federal, state, or local regulatory agencies and must be followed accordingly. Please refer to the cleaning section of this manual for the proper procedure to clean this machine.



CAUTION! Only trained and/or qualified personnel, licensed in refrigeration, should perform service to the refrigeration systems of this equipment. Failure to comply may result in personal injury from moving parts or damage to the machine.



IMPORTANT! *If the crossed-out wheeled-bin symbol is affixed to this machine, it signifies that this machine is compliant with the EU Directives as well as other similar end-of-life legislation in effect after August 13, 2005. Therefore, it must be collected separately after its use is completed and cannot be disposed as unsorted municipal waste.*

The user is responsible for delivering the machine to the appropriate collection facility, as specified by your local code.

For additional information regarding applicable local disposal laws, please contact the municipal waste facility and/or local authorized Taylor distributor.

Service functions described in this manual could cause irreversible damage to the machine and/or injury to personnel if performed improperly.

If the power cord is damaged, it must be replaced by the manufacturer, or its service agent, or a similarly qualified person in order to avoid a hazard.

Equipment Safety



Important:

- Turn the power switch OFF and disconnect the dispenser power cord from the wall outlet before cleaning, moving, or servicing the Dispenser.
- Inspect the Dispenser on a regular basis to identify potential problems before they occur.
- Keep the Dispenser clean.
- Keep hands away from the accumulator doors and dispenser drums while the Dispenser is operating.
- Fry baskets may be hot. Pick them up by the handles only.
- **Do not** roll the Dispenser to the back sink for cleaning. This will cause unnecessary wear on the Dispenser.
- If the power cord is damaged it must be replaced by the manufacturer, or its service agent, or a similarly qualified person in order to prevent a hazard.
- Use only the power cord that came with the Dispenser. **Do not** use an extension cord.
- **Do not** modify the power cord.
- In a safety emergency, immediately disconnect the power cord from the wall outlet.
- **Do not** obstruct access to the wall outlet or place pressure on the power cord.
- **DO NOT SPRAY THE DISPENSER WITH LIQUID OR SOLVENTS.** It is not sealed against jetting fluids, and contamination may get into sensitive components. Spraying the Dispenser may void the warranty.
- Use caution when handling heavy parts such as back and top panels.
- Always re-install service panels when maintenance is complete.
- Keep machine upright at all times.
- Keep ventilation openings in the machine enclosure clear of obstruction.
- **Do not** use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer. **Do not** drill or otherwise puncture cabinet walls or top.
- **Do not** damage the refrigerant circuit.
- **Do not** use electrical appliances inside the food storage compartments of the machine unless they are of the type recommended by the manufacturer.
- **Do not** store explosive substances such as aerosol cans with a flammable propellant in this machine.

Equipment Safety Cont.

Electric Shock

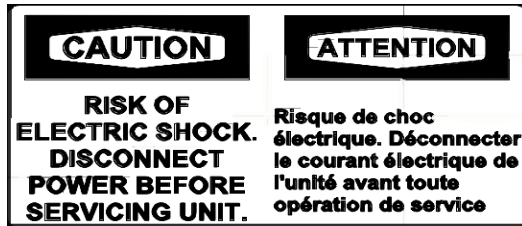


Figure-1: US and Canada

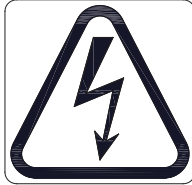


Figure-2: International

CAUTION!

Risk of electric shock. disconnect power before servicing unit.

Located near power cord inlet.

Moving Parts



Figure-3: US and Canada



Figure-4: international

CAUTION!

Disconnect power before servicing unit.

Located on the top and bottom rear access panels, side access panel top cover and near power cord inlet.

Pinch Point

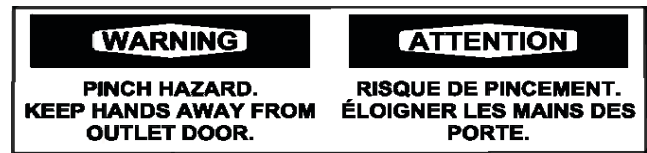


Figure-5: US and Canada



Figure-6: International

CAUTION!

Moving parts. hands should not be placed near or below the outlet door.

Located on the front and applies to the outlet door assembly.

Risk of Fire



Figure-7: Domestic/International

Located on the rear access panel and applies to the cabinet insulation and refrigeration system.

CAUTION!

Risk of fire. Keep open flame from exposed insulation when servicing refrigerant is flammable. (Model R200 only R290 refrigerant).

Warning: Keep ventilation openings in the machine enclosure clear of obstruction, particularly in the back-bottom panel.

Caution: The R200 utilizes R290 (propane) as a refrigerant. Release of refrigerant into the atmosphere is strictly prohibited.

Caution: Propane (R290) is highly flammable.

Dispenser Assembly

Note: Before assembling the Dispenser, it is recommended that all parts be cleaned, sanitized, dry, and handled in a sanitary manner. Refer to the Cleaning Procedures (page 10) for more information.



Figure-8 Fry Guide

Install the fry guide under the cabinet outlet, sliding it onto the mounting rails.



Figure-9 Flap Door

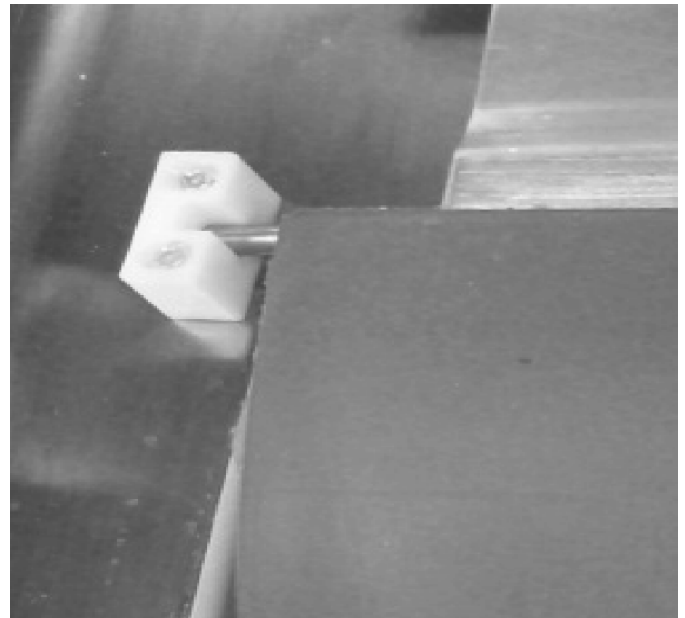


Figure-10 Pivot Block



Figure-11 Accumulator Housing

Open the cabinet door. Install the flap door by slipping it under the accumulator doors so the green arrows are visible from inside the cabinet. Seat the flap door pivot pin into the plastic pivot blocks, as shown above. Install the accumulator housing on the accumulator doors.

Dispenser Assembly Cont.



Figure-12 Drum



Figure-13 Fry Diverter



Figure-14 Hopper Assembly

Install the drum into the hopper, making sure the square opening in the drum is pointed toward the rear of the hopper. Install the fry diverter in the hopper by sliding the fry diverter tabs into the slots located on the inside hopper wall. Install the hopper assembly into the cabinet by sliding them onto the hopper supports. **Do not** force the drum onto the shaft. Rotate the drum in the hopper until the square opening meshes with the drum motor shaft, then slide the hopper assembly backward until it drops into place.

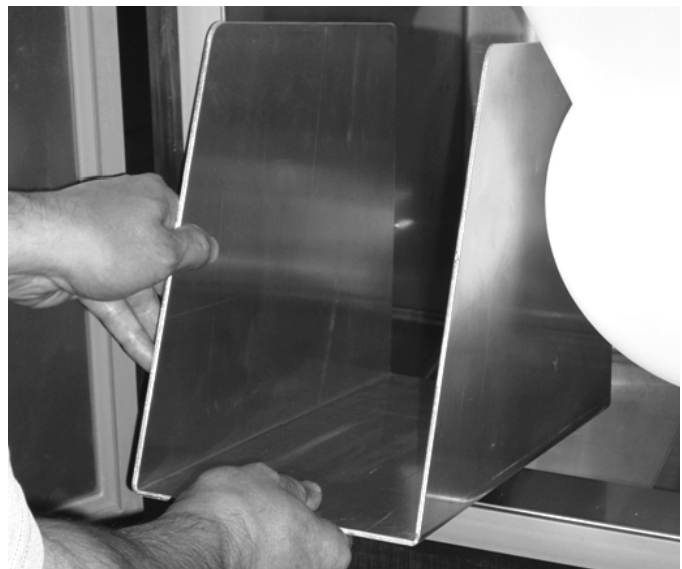


Figure-15 Storage Guide

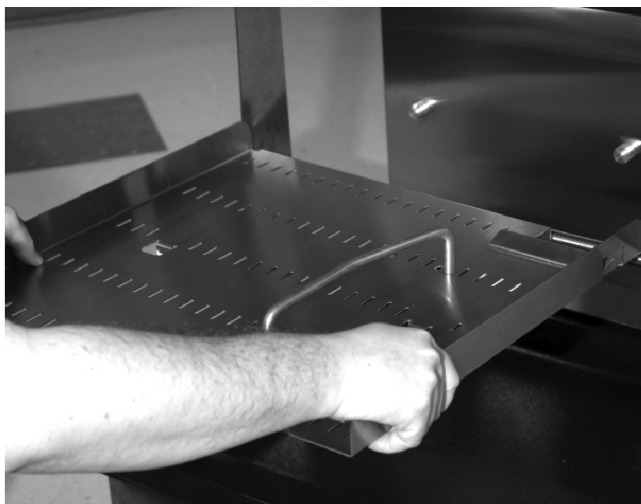


Figure-16 Basket Rack



Figure-17 Drip Tray

Once the accumulator housing and hopper assembly are in place, install the storage guide alongside the hopper assembly and close the cabinet door. Assemble basket rack and drip tray in the dispensing area.

Using the Optional Hash-Brown Rack

The RAM® R200 cabinet can be used to store frozen hash-browns while serving breakfast. To use the cabinet for hash-brown storage, properly assemble the Dispenser (see page 7), then install the optional hash-brown rack accessory as shown in the diagram below. The rack will serve as a shelf inside the refrigerated cabinet for hash-brown storage.

Note: The hash-brown rack should be removed during fry dispensing.



CAUTION! DO NOT store hash-browns on the drum below the rack. Failure to follow this instruction may result in damage to the Dispenser.

Insert the four rods of the hash-brown rack into the holes in the side of the hopper, then lower the rack onto the fry diverter.

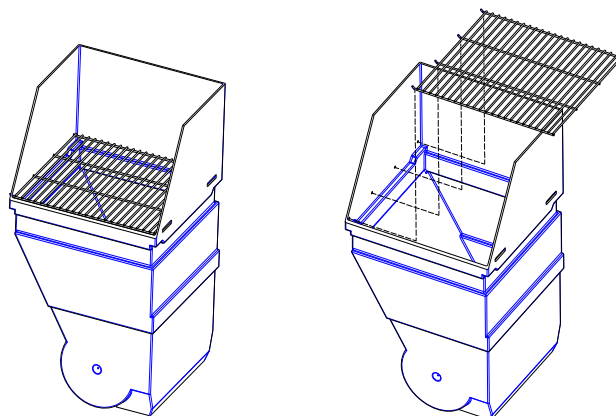


Figure-18

Hash-brown rack
Shown with Hopper

P/N: 295846
P/N: 295696)

Using the Storage Guide

The RAM® R200 comes with a storage guide that can be used to aid in storage inside the cabinet. To use the storage guide, properly assemble the Dispenser (page 7), then install the storage guide as shown below. An extra bag of fries or other frozen products may be placed in the storage guide. This allows for extra storage inside the cabinet while not interfering with the operation of the Dispenser.

Caution: Do not store items inside the cabinet without using the storage guide.



Figure-19

Storage Guide

P/N: 295942

Disassembly, Defrost, and Cleaning



IMPORTANT! These cleaning instructions are intended as a guide. Refer to your local, state, and federal regulations for any additional instructions and for cleaning frequency requirements.

1. Remove all baskets from the Dispenser area. Open the cabinet door and remove the hopper assembly by lifting the front of the hopper up slightly and pulling forward.
2. Remove any unused product from the hopper and accumulator housing by emptying the product into an approved storage container. Place the storage container immediately into a freezer to maintain frozen product.

3. Defrost:

Because the Dispenser employs a cold wall design, it will be necessary to manually defrost the cabinet daily. After removing the product, use the On/Off switch to turn the power off and unplug the dispenser power cord. Open the cabinet door and allow 1 hour to defrost.



CAUTION! Never use a sharp object to remove frost buildup. Never drill or otherwise puncture cabinet walls or top. Failure to follow this instruction may result in damage to the Dispenser.

4. Lift and remove the accumulator housing.
 5. Lift and remove flap door assembly.
 6. Lift the front of the fry guide and pull out to remove.
 7. Remove the basket guide assembly from the Dispenser by lifting up on the front of the guide then tilt and pull outward. Remove drip tray by lifting, tilting and sliding outward.
 8. Take the removable components from the Dispenser to the washing area. Wash them with a hot solution of detergent and water. Rinse each component with clear water and sanitize (wash/rinse/sanitize) (HCS). Allow components to air-dry.
- Note:** The removable components are **not** dishwasher safe.
9. Move the Dispenser out from the wall to clean behind and underneath it.



CAUTION! DO NOT roll the Dispenser to the back sink for cleaning. Failure to follow this instruction will cause unnecessary wear on the Dispenser.

10. Once the cabinet is free of frost, wipe down the internal and external cabinet with a hot solution of detergent and water. Rinse with clear water and repeat wipe-down with sanitizing solution (HCS) and allow to air-dry.



CAUTION! DO NOT spray the Dispenser with liquid or solvents. The Dispenser does not provide a watertight seal. Failure to follow this instruction may allow contaminants and moisture may get into sensitive components.

11. Dry all components and reassemble the Dispenser (page 7). Move Dispenser back into place.

Important! *The Dispenser must be accessible from all sides for routine cleaning and maintenance. A minimum of 1 in. (25 mm) clearance on both sides and 2 in. (50 mm) behind the Dispenser is recommended.*

Dispenser Startup

When the Dispenser is in place, lock both front casters. Make sure power switch, located on the right side of the Dispenser is turned Off. Assemble the Dispenser (page 7). Plug the power cord into an approved outlet and turn the Dispenser on.

Note: *Turn Dispenser on a minimum of 90 minutes (depending on ambient temperature conditions) before loading frozen product into the Dispenser. Once the temperature display has dropped to 10°F (-12°C), load frozen product into Dispenser and use the Dispenser.*

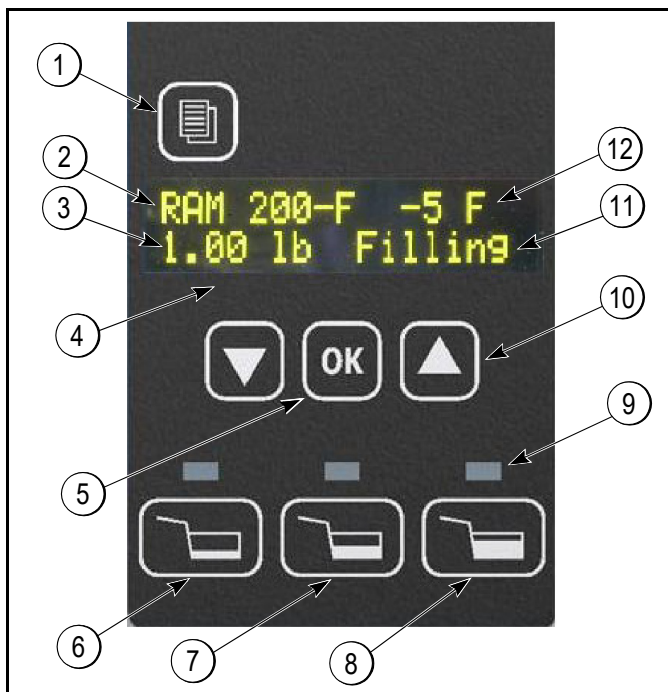


Figure-20

Item	Description
1	Menu Button
2	Refrigeration Status
3	Load Size Selection
4	Display
5	OK Button
6	Basket Size - Small Load Button
7	Basket Size - Medium Load Button
8	Basket Size - Large Load Button
9	Cabinet Temperature
10	Weighing System Status
11	Up and Down Buttons
12	Load Size Indicator Lights

The operator panel consists of two groups of controls: the hopper controls and system controls with data display. It is used to make basket load size selections and to access controller functions. On power up, the display will very briefly show the software name, software version, copyright notice, and then the main screen.

The main screen will appear as shown above. The display shows:

- Current refrigeration status
 - Waiting** - Refrigeration system in short cycle delay
 - Cooling** - In initial cool-down stage
 - RAM® 200-F** - In normal refrigeration cycle
 - Open** - Cabinet door is not closed
- Current cabinet temperature (after temperature indicates compressor is on in normal cycle)
- Current basket load size selection (**Select Size** - if no selection has been made)
- Current weighing system status
 - Filling** - Drum is turning to place fries on the accumulator doors.
 - Empty** - Insufficient weight on accumulator doors after filling cycle, hopper is empty.
 - Ready** - Fries are waiting to be dispensed. Place basket in fill position to dispense.

Operation

Note: *This machine is to be used only for dispensing frozen fries or other approved product. Any other use may cause injury to personnel or damage to the machine.*

The Frozen Food Dispenser is intended to maintain and dispense frozen fries on demand eliminating the need for staging full baskets of fries. Dispensing and cooking fries direct from the freezer results in improved fry quality, consistency and yield.

Do not stage full baskets of fries on the bottom tray. The lower tray area should be used for empty fry basket storage only.

Loading the Hopper

Note: *To achieve optimum fry yield and the most consistent basket loads, it is important to use the following technique for loading frozen fries into the hopper.*

The Dispenser hopper holds 42 lb. (19.1 kg). Hopper capacity may vary depending on the product.



WARNING! Pinch Hazard. DO NOT place hands or fingers near the drum inside the hoppers while this machine is in operation. Hands or fingers could be pinched between the drum and the hopper as the drum turns. Failure to comply may result in personal injury from moving parts or damage to the machine.

Note: *Do not shake or drop fries from the bag or box into the hopper. This will result in unnecessary fry breakage.*

For each bag or box of fries:

1. Remove the bag of fries from the case. Be careful not to crush the fries.
2. Open the top of the bag or box completely. (A partially open bag may retain fries.)
3. Hold the opened end of the bag closed with your hand and lay it in the hopper with the opening toward the side opposite of the diverter.
4. Release the opened end of the bag or box.

5. Empty the bag into the hopper by pulling it evenly toward the diverter. When adding multiple bags of fries, alternate the placement of the bag in the hopper opposite of the previous bag. The second bag of fries should be emptied into the hopper with the opening toward the diverter, and pulling it evenly toward the hopper wall opposite the diverter.
6. This crisscross loading method ensures an even distribution of fry lengths in the hopper and the baskets.

Setup and Operation

1. Fill hopper with product.

Note: *DO NOT SHAKE OR DROP the fries into the hopper (refer to "Loading the Hoppers" on page 12).*

2. Select a Basket Size button to dispense desired load.
3. Default settings are:
 - Small load = 0.50 lb. (225 g)
 - Medium load = 1.0 lb. (450 g)
 - Large load = 1.5 lb. (700 g)

An LED will illuminate above the basket load size that is currently selected.

4. The drum motor will turn until the selected target weights are achieved. If there is insufficient product in the hopper a low fry warning EMPTY will show on the display.
5. Place a basket under the accumulator outlet. Lift the front of the basket slightly and slide the basket forward over the basket sensor. The accumulator doors will open and close, discharging product into the waiting basket.
6. Remove the basket.
7. The Dispenser will repeat step 4, preparing the next basket. The Dispenser will automatically dispense as soon as the next basket is present.

Automatic Load Size Step Down Feature

(For Dispensers with this feature.) When in the Large load size setting, if a basket has not been dispensed within 4 minutes the machine will automatically shift from the Large to the Medium setting. The weight selection will remain in the Medium setting until the operator elects to change it.

Automatic Load Size Step Down Feature (Euro only)

(For Dispensers with this feature.) When operating the Dispenser in the Large or Medium load size settings, the Dispenser automatically changes the selected load size to the next smaller size if a basket is not dispensed within a preset time period. If the dispenser is operating in the Large setting it will automatically switch to the Medium setting in a preset time period (default is 7 minutes). If the dispenser is operating in the Medium load size, the dispenser will change again to the Small load size if a basket is not dispensed in a second preset time period (default is 3 minutes). Preset time periods are set using the Configuration Function “Step down.”

Daily Closing

Select **Last Basket** from the operator panel to cancel all currently selected basket loads. Using the operator panel, press the menu button once to display Last Basket, then press the OK button.

The Dispenser will stop automatically refilling the accumulator housing. Dispense any fries present in the accumulator housing into a basket. The Dispenser will **not** refill the housing.

Empty the Dispenser. Dispose of any unused product or place into an approved storage container. Place container immediately into freezer to maintain frozen product.

Take the removable components from the Dispenser to the washing area. Wash them with a hot solution of detergent and water. Rinse with clear water and sanitize (HCS). Allow to air-dry. (See “Disassembly, Defrost, and Cleaning” on page 1-10.)

Defrost Cabinet Daily

Turn the power switch to OFF, then open the cabinet door to allow the Dispenser to defrost for 1 hour or until free of frost.



CAUTION! Never use a sharp object to remove frost buildup. Never drill or otherwise puncture cabinet walls or top. Failure to follow this instruction may result in damage to the Dispenser.

Once the cabinet is free of frost, wipe down the internal and external cabinet with a hot solution of detergent and water. Rinse with clear water and repeat wipe-down with sanitizing solution (HCS) and allow to air-dry.

Reassemble the Dispenser (page 7). Move Dispenser back into place.

Last Basket/Cancel Selections

Before cleaning the Dispenser, or if it becomes necessary to stop automatic dispensing, the operator is able to cancel the selected basket load. The drum will stop turning and any currently selected basket load light will turn off. Any fries present in the accumulator housing will dispense automatically if a basket is presented. The Dispenser will **not** refill the housing.

To cancel a currently selected basket load using the operator panel, press the Menu button once to display Last Basket, then press the OK button. The Dispenser will stop automatically refilling the accumulator housing.

To return to normal operation select a Basket Size  button.

Error Conditions

The Dispenser's controller can detect an error or abnormal condition. When an error condition is detected the display will display ****ERROR**** and state the error that has occurred.

Resetting Errors: When an error does occur, it is normally reset by pushing the OK button.

Note: *Errors relating to the refrigeration systems, while requiring corrective action, will not disable the fry dispensing portion of the machine.*

If the error condition persists, turn the power switch Off and unplug the power cord from the wall outlet. Check the power cord for any obvious defect. Open the cabinet door to make sure the dispenser is properly assembled (page 7) and the product is loaded properly.

See page 23 for a complete list of errors and for a troubleshooting guide to aid in resolving the error conditions.

Low and Empty Hopper Warnings

The RAM® R200 Frozen Food Dispenser is equipped with a low product sensor. When the product level in the hopper nears empty, a low product message Low Fry will appear on the display. The Dispenser will continue to dispense product.

This message will remain until the hopper is refilled. When the hopper runs empty, a flashing Hopper Empty will also be displayed on the main screen. The dispense cycle will stop.

The Hopper Empty warning indicates the dispenser was unable to achieve the target weight on the accumulator doors. It may also indicate a scale obstruction, calibration problem, or bridged fries in the hopper.

If the Empty warning is present, check and/or fill the hopper and press a basket load button to restart the cycle.

Note: *The Dispenser will also retry the weigh cycle every 90 seconds.*

Door Ajar Switch

The Dispenser is equipped with a door switch detecting an open cabinet door. If the door is ajar, Open will appear on the display. The Open message will begin to flash after 5 minutes. If the door remains ajar for more than 15 minutes, the refrigeration compressor will shut off until the door is closed again. This condition will not affect the operation of the dispensing portion of the machine but is intended to avoid unnecessary wear on the refrigeration system of the RAM® R200 Frozen Food Dispenser.

Bypass Mode of Operation

Sensor Bypass mode will allow the Dispenser to remain operational in the event that a basket sensor fails. Sensor Bypass mode is intended to be a temporary condition until a replacement basket sensor can be installed.

Note: *The Sensor Bypass mode is a volatile condition and will return to normal operation if the power is turned off and back on again.*

While in Sensor Bypass mode the basket sensor is disabled and will not dispense fries automatically into a basket when presented.

To dispense the fries into a basket, press the selected Basket Size  button after placing an empty basket under the accumulator door opening. The accumulator doors will cycle each time the Basket Size  button is depressed.

While in Sensor Bypass mode the Dispenser will otherwise appear to operate normally, refilling the accumulator housings automatically after each dispense cycle with the selected load of fries.

Note: *Engaging Bypass mode is performed from the Service Functions menu (page 18) using the operator panel on the front of the Dispenser and may require a manager's password to access the menu.*

To access the Service Functions menu on the operator panel, press the Menu button three times to display Service Menu. Then press the OK button. If the display does not change, the manager password has been set. Enter the manager's password using the Up and Down arrows and basket load size buttons. Then press the OK button.

The display will change to Service Menu with Error Counts shown below. Press the Up arrow  button until Bypass Functions is displayed, then press the OK button to access the Bypass Functions.

The display will read Bypass Functions with a flashing Refrig and On underneath. Use the Up  arrow button to change Refrig to Basket and press the OK button. The On will now be flashing. Use the Down arrow to select Off and press the OK button. The Sensor Bypass mode is now activated.

Press the Menu button to exit to the main  Service Menu screen. Press the Up arrow button until Main Screen is shown. Then press the OK Button to return to the main screen.

To deselect the Sensor Bypass mode, return to the Sensor parameter in the Bypass Functions  screen. Press the Up arrow button to change Off to On then press the OK button to save the setting.

Press the Menu button to exit to the main  Service Menu screen. Press the Up arrow button until Main Screen is shown, then press the OK button to return to the main screen.

User Function Menu Structure

- Press the Menu button to find the desired menu, then press the OK button to select the menu.
- Use the Up  and Down  arrow buttons to find the desired function.
- Press the OK button to select the desired function.
- Menu button exits function at any time and returns to Main Menu.

Note: A Service Password is available. Use the Service Password if the manager's password has been misplaced. The Service Password operates in the Service Menu only and will erase the manager's password and restore to default (no password). The Service Password sequence is:

Small Basket, Up arrow, Down arrow, Large Basket, Medium Basket (twice), then OK button.

Function Name	Description
Last Basket/Cancel Selections	Halts weighing-in process. Turns off all basket load size button lights. Immediate return to main screen.
Last Basket/Cancel Selections	Halts weighing-in process. Turns off all size button lights. Immediate return to Main screen.
Calibrate Note: See "Calibrations and Adjustments" on page 1-30.	Calibrates scale. 1. Remove hopper. Note: Leave the housing in place on the accumulator doors. 2. Display reads "Place Basket." Waits for a basket to be placed, then empties the accumulator doors into the basket. 3. Tares automatically. 4. Display reads "Place 1.0 lb.," or "Place 450 g" if set to metric units. Place 1.0 lb. (450 g) weight on the accumulator doors. 5. Display reads "Place 2.0 lb.," or "Place 900 g" if set to metric units. Place an additional 1.0 lb (450 g). 6. Display reads "Remove Weight." Remove weights from the accumulator. 7. Re-install hopper. The dispenser will return to normal operation with no basket size selected.
Error History	Displays the last 10 recorded errors in reverse order starting with the last error recorded. - Up button shows next error. - Down button shows previous error. - OK button closes function.
Software Version	Display shows current software for both controller software and display software. OK button closes function.
Main Screen	Immediate return to Main screen.

Configuration (Config) Functions Menu Structure

- Press the Menu button to find the desired menu then press the OK button to select the menu.
- Use the Up  and Down  arrow buttons to find the desired function.
- Press the OK button to select the desired function.
- Menu button exits function at any time and returns to main menu.

Note: A Service Password is available. Use the Service Password if the manager's password has been misplaced. The Service Password operates in the Service Menu only and will erase the manager's password and restore to default (no password). The Service Password sequence is:

Small Basket, Up arrow, Down arrow, Large Basket, Medium Basket (twice), then OK button.

Function Name	Description
Set Targets	Allows the basket load targets to be customized for each basket load size. 0.25 lb. to 2.0 lb. (100 g to 1,000 g) Display shows a flashing Small and the current small basket size weight target. 1. Up and Down arrows move through the three basket load sizes (Small, Medium, and Large). OK button selects basket load size to change. 2. Display shows current basket size target weight flashing. Use the Up and Down arrows to change the target weight, 0.25 lb. to 2.0 lb. (100 g to 1,000 g). OK button saves the new target weight and returns to the basket load size selections (Small, Medium, and Large). 3. Menu button returns to the Configuration menu.
Set Temp	Allows the refrigeration cycle turn ON and turn OFF target temperatures to be changed. The default is ON at 5°F (-15°C) and OFF at 0°F (-18°C). • OK button selects the target (ON or OFF) to be set. The target temperature will be blinking. Turn ON target is changed using the Up and Down arrows. The differential between the turn ON and turn OFF settings remains the same. Turn OFF target is changed using the Up and Down arrows and can be set independent of the turn ON target. • Up button will increase the target temperature in 1° increments. • Down button will decrease the target temperature in 1° increments. • OK button changes the selection between ON or OFF. Menu button saves setting and returns to the Configuration menu
Set Language	Allows the display language to be changed. • Use Up and Down arrows to change display language. OK button stores the new setting and exits to Configuration Menu.
Set Metric	Changes from English to metric units. Display will default to currently selected unit. • Up and Down arrows switch between United States and metric. • OK button stores the new setting, closes the function, and exits to Configuration menu. Note: Scales must be calibrated. (See "Calibrations and Adjustments" on page 1-30.) Press the Menu button at any time to abort function and return to the Configuration menu.

Function Name	Description
Step Down (Euro only)	Allows the load size step down time periods to be changed. Times shown in minutes. Display shows Large to Medium and Medium to Small load size step down times. Note: <i>Times shown are default times.</i> • Large to Medium = 7 • Medium to Small = 3 • Up arrow increases setting in 1 minute increments. • Down arrow decrease setting in 1 minute increments. • OK button changes between Large to Medium and Medium to Small parameters.
Set Password	Allows a password to be set to access both configuration and service functions. (Default is no password.) (See page 30.) Press OK button to enter function. Display shows "-----". Use basket size buttons and Up and Down arrows to enter up to an eight digit password then press the OK button. (Any sequence of the basket size buttons and Up and Down arrow buttons can be used to create a password.) Display reads "Repeat Password" and "-----". Repeat the password sequence then press OK to save the password and exit to the Configuration menu. (See page 30 for Service Password.) Note: Press the Menu button at any time to abort function and return to the Configuration menu.
Main Screen	Press OK to exit Configuration menu, and return to the Main screen.

Service Functions Menu Structure

- Press the Menu button to find the desired menu then press the OK button to select the menu.
- Use the Up  and Down  arrow buttons to find the desired function.
- Press the OK button to select the desired function.
- Menu button exits function at any time and returns to Main menu.

Note: A Service Password is available. Use the Service Password if the manager's password has been misplaced. The Service Password operates in the Service menu only and will erase the manager's password and restore to default (no password). The Service Password sequence is:

Small Basket, Up arrow, Down arrow, Large Basket, Medium Basket (twice), then OK button.

Function Name	Description
Error Counts	Displays the number of occurrences of each error. Press OK button to enter function. Display shows Error and Number of Occurrences (Counts). • Up arrow shows next error. • Down arrow shows previous error. • Menu button closes function and returns to Service menu.
Clear Functions	Allows for clearing the Error Log, Held Errors, and to reset Dispenser Parameters. Display shows a blinking function (Error Log, Held Errors and Parameter [Parameter refers to factory defaults]). • Up arrow will advance to next function. • Down arrow to previous function. • OK button selects function. Display will now blink Keep. Up and Down arrows will change display between Keep and Reset (Keep retains current settings, Reset clears Error Log, and Held Errors, and resets Parameters [Factory Defaults]). Pressing OK selects Keep or Reset, closes function, and returns to Service. Note: Scale must be calibrated if Parameters (factory defaults) reset. Press the Menu button at any time to abort function and return to the Service menu.
Adjust Temp. (adjust temperature probe) Note: See procedure on page 31.	Caution: Read procedure on page 31 before continuing. Displays the current temperature probe reading in tenths of a degree e.g. -1.5°F. Allows the cabinet temperature probe to be corrected. • Up arrow will increase temperature in 0.1° increments. • Down arrow will decrease the temperature in 0.1° increments. OK button will save the setting and return to Service menu.
Scale Readout	Displays the live units used to calculate weight, the live calibrated weight in pounds or grams, and the tare setting. OK button closes function and returns to the Service menu. Scale: Live units / Tare Live Calibrated weight / Tare Setting

Function Name	Description
Refrig Monitor	Displays the present state of the refrigeration system. Refrig. Cycle Door:_ Timeout Out:_ Back:_ Refrigeration Cycle: • “Wait” = In short cycle delay or in Bypass mode. • “Cool” = Initial cooling cycle. • “On” = Normal refrigeration cycle, compressor on. • “Off” = Normal refrigeration cycle, compressor off. Timeout – Number of seconds remaining in refrigeration short cycle delay. • Door: Door Switch status. * indicates door switch on, door closed. • Out: Compressor output status. * indicates compressor output is on. Compressor should be running. • Back: Refrigeration Feedback Relay status. Used to diagnose refrigeration system. • OK button closes function and returns to the Service menu.
Weighing Monitor	Displays the present state of the weighing system. Weighing cycle Live weight Out:_ Load size Weighing cycle • Idle - Waiting for a basket size selection. • Check - Checking Tare weight • Dispens - In dispense cycle. • Pulsing - Nearing target weight • Drop - Dispensing product into basket • Empty - Dispense cycle has completed, target weight not met. • Disable - No load selection has been made. • “Live weight” is the actual calibrated weight on the accumulator doors. • Out: Drum motor output (* is present when output is on, numbers just to the right indicate current is present.) • “Load size” is the current basket load size selection. • OK button closes function and returns to the Service menu.
Accum Monitor	Displays the present state of the accumulator doors. Accum. door position Out:_ Accum door state Home:_ Accum. door position: • Open - Doors. • Close - In dispense cycle. • Out: Accumulator door motor output, * indicates on. Number to right indicates current. • “Accum door state” is the current door state, “Ajar” or “Closed.” • Home: * Indicates home position has been reached during cycle. • OK button closes function and returns to Service menu.

Function Name	Description
Sensor Monitor	Displays the present state of the Basket Sensor. “Sensor:_” * indicates sensor is reading a basket present. “Basket State” indicates present basket cycle. • “None” - No basket is present. • “Basket” - Basket is present waiting to be filled. • “Filled” - Basket is present and has been filled. “Weigh cycle” indicates position in the weighing cycle • Idle - Waiting for a basket size selection. • Check - Checking tare weight. • Dispens - In dispense cycle. • Pulsing - Nearing target weight • Drop - Dispensing product into basket. • Empty - Dispense cycle has completed, target weight not met. • Disable - No load selection has been made. OK button closes function and returns to the Service menu.
Fry Monitor	Used to set the Low Fry Sensor Alarm level. The Low Fry Alarm will turn on after the Low Fry Sensor stops sensing fries and a set amount of fries has been dispensed. If no fries are sensed at start up, the display will read “No Fry Sensor.” Once fries are sensed, the display will read “Low Fry Sensor_.” The “_” indicates the Low Fry Sensor is active. Sensor level set point Shows the amount of weight which must dispense, once the sensor stops sensing fries and before the alarm turns on. Up and Down arrow buttons change the Sensor Level setting. Current level Shows the weight remaining before the alarm turns on. If the sensor is indicating fries present, the Sensor Level set point and the Current level will be the same. Menu button exits the function and returns to the Service menu.
Bypass Functions Note: Volatile setting. (will reset each time power is cycled)	Used to bypass certain dispenser systems to allow for diagnosing problems or to operate if a system has failed (sensor). The systems are the refrigeration system, the weighing cycle, and the basket sensor. Display will read a flashing Refrig. • Use the Up and Down arrow buttons to change from Refrig, Weigh or Sensor. • OK button selects system to be bypassed. Display will read a flashing ON. • Up and Down arrow buttons change between ON and OFF, then press the OK button. (Select OFF to bypass the selected system.) Display returns to Service menu. Note: Press the Menu button at any time to abort function and return to the Service menu.

Function Name	Description
Test Outputs	Turns on and off outputs for diagnostic purposes. Output selection Refrig timeout Out: _ Display shows a flashing Refrig: - Up and Down arrow buttons change the output selection (Refrig, Drum, or Accum). - OK button selects the output. Display will show selected output and a flashing Out: - Up arrow turns on the output, * appears next to "Out". - Down arrow turns off the output, removes *. Menu button exits the function and returns to Service menu Note: <i>The refrigeration system has a 2-minute short cycle delay. The refrigeration system will turn on when the "Refrigeration timeout" has reached zero (0) and the refrigeration ("Refrig") bypass function is set to ON.</i>
Set Password	Allows a password to be set to access both Configuration and Service functions. (Default is no password.) (See page 30.) Press OK button to enter function. Display reads "Set Password" and "-----". Use basket size buttons and Up and Down arrows to enter up to an eight-digit password. When finished, press the OK button. (Any sequence of the basket size buttons and Up and Down arrow buttons can be used to create a password.) Display reads "Repeat Password" and "-----". Repeat the password sequence, then press OK to save the password and exit to the Service menu. (See note below for Service Password.)
Main Screen	Press OK to exit Service menu and return to the Main screen.

Error Detection

The main display will read ****Error**** and state the error which has occurred (e.g. Weighing Issue).

If an error does occur, it is normally reset by pushing the OK button. If the failure continues, turn the power switch off and unplug the power cord from the wall outlet. Check the power cord for any obvious defect. Open the cabinet door to make sure the Dispenser is properly assembled (page 7) and the product is loaded properly.

See page 23 for troubleshooting an error condition.

Error Codes	
Error	Description
Drum Won't Turn	Drum motor is not turning. (Error 1)
Fry Doors Stuck	Accumulator motor is not turning. (Error 2)
Fry Door Failed	Timeout error on accumulator. (Error 3)
Weighing Issue	Tare weight has shifted excessively. (Error 4)
Cooling Slow	Refrigeration progress too slow. (Error 5)
Cooling Failed	Refrigeration high-pressure switch may have tripped. (Error 6)
Refrig. Error	Error on refrigeration relay drive. (Error 7)
Probe Failure	Temperature probe input out of range. (Error 8)
DC Power Low	DC voltage low
NV Data Lost	Invalid data in Configuration (normal at first start-up)
NV Data Bad	Call factory.
Internal Issue	Call factory.

Troubleshooting

The following is a list of errors that may occur, probable causes, and corrective action that may eliminate the problem. If after performing the corrective action the problem persists, contact a service technician.

Drum Won't Turn (Error 1)

The controller has detected a CURRENT ERROR FOR THE DRUM MOTOR. The drum motor current draw is monitored by the controller. A drum motor error will occur if the motor current falls outside the expected values.

A DRUM WON'T TURN error could be caused by disconnected drum motor wiring, a faulty drum motor, or faulty controller.

Fry Doors Stuck (Error 2)

The controller has detected a CURRENT ERROR FOR THE ACCUMULATOR MOTOR. The accumulator motor current draw is monitored by the controller. An accumulator motor error will occur if the motor current falls outside the expected values.

A FRY DOORS STUCK error could be caused by disconnected accumulator motor wiring, a faulty accumulator motor, or broken accumulator linkage.

Fry Door Failed (Error 3)

The controller has detected a TIMEOUT ERROR FOR THE ACCUMULATOR MOTOR HOME SENSOR. The accumulator home sensor sends an input to the controller each time the accumulator doors cycle. It lets the controller know that the doors opened and closed in an acceptable time.

A TIMEOUT ERROR could be caused by an accumulator motor fault, broken accumulator linkage, a disconnected or faulty accumulator encoder, or a damaged encoder vane. Verify the accumulator encoder wiring at both the board and at the encoder is secure and the vane is in place and undamaged. Check accumulator linkage to ensure it is undamaged.

Weighing Issue (Error 4)

The controller has detected a LARGE SHIFT IN THE TARE (EMPTY) READING FOR THE SCALE INPUT. Could be caused by an obstruction of the scale or loss of calibration. Verify the accumulator housing and flap door are properly assembled. Check accumulator doors to ensure there are no obstructions (e.g. fries jammed underneath). Verify the shaft collars are pushed back to the e-clips near the back wall. If no obstruction is found, calibrate the scale (see page 30).

Cooling Slow (Error 5)

The controller has detected that the CABINET TEMPERATURE IS NOT COOLING AS EXPECTED. Likely causes are leaving the cabinet door open for extended periods of time during operation, or the power was left on while defrosting the cabinet. Other possible causes are a restriction to the airflow across the condensing unit such as might occur with a dirty condenser filter and/or coil, a faulty temperature probe, or a malfunction of the refrigeration compressor. Check for obstructions near the condensing unit inlet grill and inspect and clean the condenser filter and/or coil if needed (see page 44). Verify the temperature probe is in place and properly secured. CONTACT A SERVICE TECHNICIAN FOR ASSISTANCE. † (See note below to reset.)

Troubleshooting cont.

Cooling Failed (Error 6)

The HIGH PRESSURE SWITCH FOR THE REFRIGERATION SYSTEM MAY HAVE TRIPPED. Possible causes include a restriction to the airflow across the condensing unit such as might occur with a dirty or plugged condenser filter and/or coil. Inspect and clean the condenser filter and/or coil if needed (page 44). A failed condenser fan, a failed refrigeration relay or feedback relay, or a loose wire to a relay may cause this error. A failed refrigeration over-pressure switch, or a loose wire to the over-pressure switch could cause this error. Also a power outage or faulty power cord may cause this error. This error will need to be reset using the Clear Functions parameter in the Service menu. Contact a service technician for assistance. (WARNING: HIGH VOLTAGE. Unplug the Dispenser before attempting to repair the wiring for the high pressure switch.) † (See note below to reset error.)

Refrig. Error (Error 7)

The controller has detected an ERROR ON THE REFRIGERATION RELAY DRIVE indicating the compressor feedback relay did not turn off when the controller turned off refrigeration. This could be caused by a stuck refrigeration relay, the feedback relay stuck shut, a short circuit, or controller output failure. Verify there is no foreign material or loose connections around the relay output. This error will need to be reset using the Clear Functions parameter in the Service Menu. Contact a service technician for assistance. (WARNING: HIGH VOLTAGE. Unplug the Dispenser before attempting to repair the wiring for the high pressure switch.)† (See note below to reset error.)

Probe Failure (Error 8)

The controller has determined an INPUT FROM THE CABINET TEMPERATURE PROBE IS OUT OF RANGE HIGH OR LOW. The most likely cause is a failed or disconnected temperature probe. Verify the temperature probe wires are properly secured at the controller board.

DC Power Low

The controller has detected a low voltage reading from the power supply. This could be caused by a low supply voltage condition or a faulty power supply. Cycle power and check supply voltage. If error persists it is likely a power supply failure.

NV Data Lost

NVRAM CHECKSUM ERROR. The controller has detected invalid data.

It is normal to get this error the first time a Dispenser is powered on after a new software chip has been installed or replaced. The data may be invalid for several reasons. Cycle power and calibrate the Dispenser. If the error persists it likely indicates a failure of the NVRAM. Contact a service technician for assistance.

NV Data Bad and Internal Issue – Contact Taylor Company.

† **Note:** Cooling Slow, Cooling Failed, and Refrig. Error are refrigeration errors. These errors, while requiring corrective action, will not disable the fry dispensing portions of the machine. In order to safeguard the refrigeration system these are held errors and may not reset by pressing the OK button. Corrective action must be taken before resetting these errors or damage to the refrigeration system may result. Contact a service technician for assistance. These errors are reset from the Service menu using the Clear Functions parameter.

Reset Directions

1. Press the Menu button to display Service menu, then press OK. (If a password has been set, enter the password then press OK.)
2. Press the Up arrow to change Error Counts to Clear Functions. Press OK.
3. Press the Up arrow to change Error Log to Held Errors (these will be flashing.) Press OK.
4. Press the Up arrow to change Keep to Reset (these will be flashing.) Press OK.
5. The display will show Service menu and Error Counts. Press the Down arrow to select Main Screen, then press OK.

Troubleshooting cont.

Problem	Probable Cause	Corrective Action
Error 1 (Drum Won't Turn) (over or under current)	Drum is binding in the hopper.	Hopper not installed correctly. Inspect hopper for proper assembly and placement.
	Drum motor wires are not secure.	Check the drum motor connectors are secure at the drum motor and on the main controller.
	Drum motor or controller has failed.	Verify power is present at the motor. Use the Drum parameter in the Test Outputs section of the Service Menu to manually operate the drum motor. Refer to the Service Menu section of the equipment manual. If power is present at the drum motor, replace the drum motor. If not, replace the controller after verifying connections.
Error 2 (Fry Doors Stuck) (over or under current)	Accumulator door operation is being restricted.	Check for anything which would interfere with the accumulator door movement. Verify the hopper and flap door (green arrows visible) are installed correctly.
	Accumulator motor not operating.	Use the Accum parameter in the Test Outputs section of the Service menu to manually operate the accumulator motor. Refer to the Service menu section of the equipment manual. If power is present at the accumulator motor but it is not turning, replace the accumulator motor. If not, replace the controller after verifying connections.
Error 3 (Fry Door Failed) (time out)	Accumulator door operation is being restricted.	Check for anything which would interfere with the accumulator door movement. Verify the hopper and flap door (green arrows visible) are installed correctly.
	Accumulator home switch is not reading properly.	Remove the upper back panel and disconnect, then reconnect the accumulator home switch connector at the controller.
	Accumulator motor not operating.	Use the Accum parameter in the Test Outputs section of the Service menu to manually operate the accumulator motor. Refer to the Service menu section of the machine manual.
Error 4 (Weighing Issue) (shift in tare weight)	Hopper or accumulator not assembled correctly.	Verify proper installation of accumulator housing, hopper, and flap door.
	Dispenser units have been changed.	Use the Set Metric function in the Configuration Menu to change or verify units (United States for pounds and Fahrenheit, metric for grams and Celsius). After verifying units of measure, calibrate.
	Accumulator doors are not opening to dispense the fries.	Use the Accum parameter in the Test Outputs section of the Service menu to manually operate the accumulator motor and doors. If neither door operates or if the doors move only slightly, suspect the drive wheel hub assembly. Visually inspect the accumulator assembly inside the back panel.
	Restrictions to weighing system movement: inside cabinet.	Verify the accumulator door shaft collars are pushed all the way to the back of the cabinet.
		Check for fries interfering with the accumulator door shafts.
		Check for frost buildup. Dispenser should be defrosted daily.

Error 4 (Weighing Issue) cont.	Restrictions to weighing system movement: In the back of the Dispenser.	Verify magnet block is secure and no foreign object is attached to the magnet.
		Check behind the accumulator mechanism for any foreign object which may be restricting movement of the assembly.
	Calibration has been changed or lost.	Reset Dispenser parameters (defaults) using the Parameter function in the Clear Functions section of the Service menu, then calibrate the Dispenser. See manual or below for calibration instructions.
Error 5 (Cooling Slow)	Dirty or clogged condenser and/or filter.	Clean the condenser and filter. Press the reset button to reset the error.
	Cabinet component missing or damaged.	Verify the flap door is installed. Check the door for proper alignment. Check the door gasket.
	Cabinet door not closed.	Close door.
	Refrigeration system issue.	Check refrigerant level. Verify the compressor and condenser fan are operating.
Error 6 (Cooling Failed) (high pressure error) Error must be reset using the Held Errors parameter in the Clear Functions section of the Service Menu. (See reset instructions on page 242.)	Dirty or clogged condenser and/or filter.	Clean the condenser and filter. Use Held Errors parameter in the Clear Functions section of the Service menu to clear the error.
	High ambient temperature.	Temperatures should be kept below 90°F. Verify A/C is functioning.
	Power outage.	A power outage disrupts the feedback loop, causing the error.
	Faulty power cord.	A faulty power cord may cause a disruption in the feedback loop. Replace a cut or damaged power cord
	Faulty feedback or refrigeration relay.	An intermittent or unexplained error 6 may be caused by a faulty refrigeration (SW2) or feedback relay (SW3). This can be difficult to diagnose. Verify the refrigeration relay is receiving a signal from the controller. Replace both if suspect.
	Faulty condenser fan.	The condenser fan and compressor should be running at the same time. If the compressor is running but the condenser fan is not, the condenser fan motor is faulty. Replace.
	Faulty compressor or compressor start components.	Verify if compressor will run if power is applied to it. Check start components and wiring.
	Faulty controller (rare).	Verify that the controller is sending voltage to the refrigeration relay (SW2). The Error 6 will need to be reset using the Held Errors parameter in the Clear Functions section of the Service menu for the controller to send voltage to the relay. There is a short cycle delay of about 2 minutes after the Dispenser is powered on.

Error 7 (Refrigeration Error) Error must be reset using the Held Errors parameter in the Clear Functions section of the Service menu.	Faulty feedback or refrigeration relay.	Verify that there are no wiring problems first then replace the feedback (SW3) and refrigeration (SW2) relays.
	Faulty controller (rare).	Input (from feedback relay SW2) problem on the controller. This is not common.
Error 8 (Probe Failure)	Faulty temperature probe.	Replace the temperature probe. (Use the Adjust. Temp parameter in the Service menu to view the live probe readout. (Do not use the Up or Down arrows, they will change the readout.)
DV Power Low	Low DC voltage detected.	If it persists, replace power supply.
NV Data Lost	Checksum error. The controller has detected invalid data at start-up. (It is normal to see this error the first time a Dispenser is powered up after the program software chip has been replaced.)	Press the OK button or cycle power. This error is normally only seen when a new controller and/or processor are installed.
		If the error persists, verify that the software chip is securely attached to the main controller. Cycle power.
		If reseating the software chip and cycling power does not eliminate the error, the controller and chip will need to be replaced.
No Display	On/Off switch off or tripped.	Verify On/Off switch is on and illuminated. If not check switch, power cord, or check for a short.
	Display board connector is not attached to the board.	Detach and reconnect the white 6-wire harness at the display PCB and the main controller.
	Faulty display PCB.	If the items listed above are correct and 24V power is available to the display PCB, then suspect the display PCB.
Unable to make a basket load size selection (the drum does not turn)	Calibration has been lost (the load size indicator light does not remain lit after being pressed).	Reset Dispenser parameters (defaults) using the Parameter function in the Clear Functions section of the Service menu then calibrate the Dispenser. See below or manual for calibration instructions.
	Faulty keypad.	If only a few or one button is not functioning, suspect the keypad. Verify indicator light is illuminating.

Accumulator doors not closing (one or both accumulator doors are out of place)	Drive wheel screw or clevis pin has broken or detached.	Use the Accum parameter in the Test Outputs section of the Service menu to manually operate the accumulator motor and doors. If neither door operates or if the doors move only slightly, suspect the drive wheel assembly. Verify by visually inspecting the assembly inside the back panel. Use caution.
	Broken accumulator spring.	Use the Accum parameter in the Test Outputs section of the Service menu to manually operate the accumulator motor and doors. If the right-hand door opens and closes normally but the left-hand door does not move, or moves very little, suspect the accumulator door spring has broken.
	Accumulator door retaining screw is missing.	A door will be hanging loose; it can be either the right or left door. Visually inspect the accumulator door assembly in the back. Use caution.
	Positioning information has been lost.	Use the Accum parameter in the Test Outputs section of the Service menu to manually operate the accumulator motor and close doors. Refer to the Service menu section of the machine manual. If doors return to open, reset Dispenser parameters (defaults) using the Parameter function in the Clear Functions section of the Service menu. Then use the Accum function to close the doors. Finally, calibrate the Dispenser. See manual or below for calibration instructions.
Fry loads are incorrect	Calibration has been lost or changed.	Calibrate the Dispenser. See below or manual for calibration instructions.
	Hopper parts are not correctly assembled.	Verify hopper assembly and placement.
Does not dispense fries into basket (Accumulator doors are not opening)	The fry load target weight has not been met (low fry indicator).	Verify there are fries in the hopper and on the accumulator doors waiting to be dispensed.
		Check the hopper for bridging of the fries.
		Verify the drum turns.
	Basket is not lined up with the basket sensor window.	The front end of the basket must be raised slightly and slid forward to the basket sensor shroud.
	Basket sensor is not reading the basket or sending a signal to the controller.	Remove any fries or other debris which may be interfering with the basket reaching the sensor.
		Disconnect and reconnect the basket sensor connector at the controller.
		Replaced the basket sensor if reconnecting the sensor connection does not solve the problem.
	Hopper not installed correctly.	Inspect hopper for proper assembly and placement.

Drum not turning	Broken or damaged drum.	Inspect the drum and drum socket for damage, verify the drum motor shaft turns with the hopper and drum removed. Replace drum.
	Unable to make a load size selection, calibration has been lost.	Reset Dispenser parameters (defaults) using the Parameter function in the Clear Functions section of the Service Menu, then calibrate the dispenser. See manual for calibration instructions.
	Drum motor or controller has failed.	Verify power is present at the motor. Use the Drum parameter in the Test Outputs section of the Service menu to manually operate the drum motor. Refer to the Service menu section of the equipment manual. If power is present at the drum motor, replace the drum motor. If not, replace the controller after verifying connections.
Unable to calibrate	Error message has not been cleared.	Press the OK button.
	Accumulator door assembly movement is being restricted.	Verify the accumulator door shaft collars are pushed all the way to the back of the cabinet.
		Check for fries interfering with the accumulator door shafts.
		Check for frost buildup. Defrost daily.
	Weighing system fault. Use the Scale Readout function in the Service Menu to help diagnose the weighing system.	Verify magnet block is secure and no foreign object is attached to the magnet.
		Verify cabling in the back is not resting on or interfering with the movement of the weighing system.
		Check behind the accumulator mechanism for any foreign object which may be restricting movement of the assembly.
		The Scale Readout function displays the live units used to calibrate weight, the live calibrated weight, and the tare settings. Weight readings are in grams or pounds. With the accumulator housing in place the Live Calibrated Weight should reflect the actual weight on the accumulator doors.
		With the accumulator housing in place, readings between 2.5V and 3.5V are considered normal with about 1V increase for each 1 lb. (454 g) of weight added to the accumulator doors. These numbers are approximate.
		If the live readout is 0.0V or no change in voltage when weight is added, check and clean the connections on the NCWS board (weighing board). Check the connection on the main board and check for restrictions in accumulator assembly movement. If all is correct, replace the NCWS board.
		(Rare) The main controller may be at fault.

Calibrations and Adjustments

Scale Calibration

The RAM® R200 Frozen Food Dispenser has a scale which weighs and dispenses frozen fries. This scale may require calibration periodically.

1. Open the cabinet door and remove the hopper from the Dispenser.

Note: *The accumulator housing should remain in place on the accumulator doors.*

Calibration of the scales is performed using the operator panel on the front of the Dispenser.

2. Press the Menu button until the display reads User Menu. Use the Up or Down arrow buttons to change the User function to Calibrate, then press the OK button. The display will change to **Place Basket**.
3. Place an empty fry basket under the accumulator doors. Lift the front of the basket slightly and slide the basket forward against the basket sensor. The accumulator doors will open and close to dispense any contents into the basket to ensure the accumulator housing is empty before zeroing the scale.
4. The display will change to **Zeroing Scale**. The scale now tares (zeros) itself automatically.
5. After it achieves a stable tare, the display will change to **Place 1.0 lb**, or **Place 450g** if set to metric units. Place a 1 lb. (454 g) reference weight on the accumulator doors. (Note: Four frozen 1/4-lb. patties can be used in place of a 1 lb. reference weight.)
6. Once the scale stabilizes, the display will change to **Place 2.0 lb**, or **Place 900g** if set to metric units. Place an additional 1 lb. (454 g) weight on the accumulator doors for a total of 2 lb. (908 g) on the accumulator doors.
7. After the scale stabilizes, the display will change to **Remove Weights**. Remove the reference weight(s) from the accumulator doors and reinstall the hopper. The Dispenser will return to normal operation with no basket size selected.

Set Configuration and Service Passwords

A password can be set to restrict unauthorized access to both the Configuration and Service Function menus.

Once set, the password will need to be entered to gain access to restricted menus. Take care to remember your password or write it down and keep it in a safe location.

A Configuration or Service password can be set and/or changed from both the Configuration Function menu (page 30) or the Service Function menu (page 30) using the operator panel on the front of the Dispenser.

To access the Configuration Function menu to set or change the password, press the Menu button to access the Configuration menu. Use the Up or Down arrow buttons until **Set Password** is displayed, then press the OK button. To access the Service Function menu to set or change the password, press the Menu button until the Service menu is displayed then press the OK button to access the Service menu. Use the Up or Down arrow buttons until **Set Password** is displayed, then press the OK button.

The display will change to read **Set Password** and "-----". Enter a password using the basket load size buttons and Up and Down arrow buttons. When finished, press the OK button. (Any sequence of the basket size buttons and Up and Down arrow buttons can be used to create a password.)

The display now reads Repeat Password and "-----". Repeat the password sequence then press OK to save the password and exit to the Configuration or Service menu.

To cancel a set password, access the **Set Password** function and press the OK button twice without entering a password.

Target Weight Adjustment

Each basket size button's target weight can be individually customized.

Default settings are:

- Small load = 0.50 lb. (227 g)
- Medium load = 1.0 lb. (454 g)
- Large load = 1.5 lb. (680 g)

Note: Adjustments to the target weight for basket size buttons are performed from the Configuration Function menu (page 30) using the operator panel on the front of the Dispenser, and may require a manager's password to access the menu.

To access the Configuration Function menu and customize the target weights for the basket size buttons, press the Menu button to display the Configuration menu.

If a password is required the display will show "____" below **Config Menu**. Enter the manager's password, then press the OK button.

Press the Up or Down arrow buttons until **Set Targets** is displayed. Press the OK button to enter function.

The display will change to **Set Targets** with a flashing **Small** and the current target weight for the small setting displayed. Press the Up and Down arrow buttons to change between **Small**, **Medium**, and **Large**. Press the OK button to select the desired load size. The current target weight will begin to flash.

To change the target weight for the currently selected basket load size, press the Up arrow  to increase the target weight or the Down arrow  to decrease the target weight in 0.05 lb. (25 g) increments. Use the OK button to save the new setting. The display will return to a flashing load size (Small, Medium, or Large).

Repeat until all adjustments have been made. Press the OK button to store all new settings. Use the Menu button to return to the menu selections (User, Configuration, and Service) and close the function.

Use the **Main Screen** function in the menus to return to the Main screen.

Adjusting the Basket Guide Bar

The basket tray can be adjusted to allow for the use of larger width baskets. The basket tray has predrilled holes to allow for the repositioning of the basket guide bars. Remove the two screws holding the basket guide bar. Reposition the basket guide bar to the second set of holes as indicated in the picture below. Install and tighten the mounting screws.

Note: Basket trays are shown in the standard guide position.

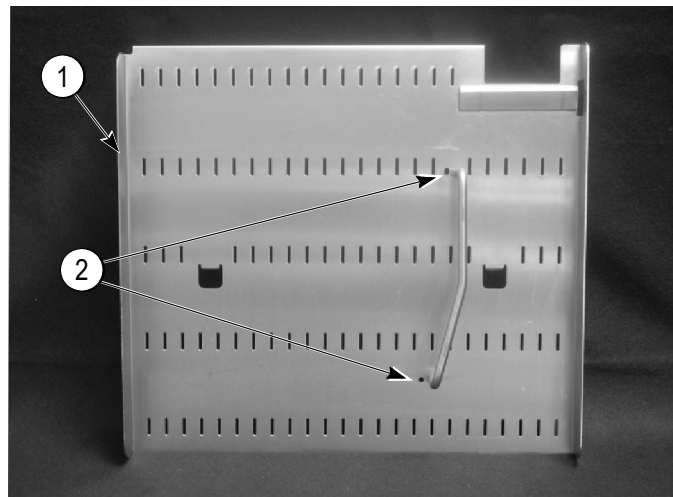


Figure-21

1	Basket Tray
2	Basket Guide Bar Mounting Holes for Large Basket

Temperature Probe Calibration

The RAM® R200 Frozen Food Dispenser uses a single temperature probe mounted to the wall of the cabinet compartment in the upper right. It is the temperature displayed on the main screen panel and also used to control the refrigeration system.

The temperature control is factory set. Unless the controller or the temperature probe are replaced, it will not be necessary to change these values. In addition, raising or lowering the target temperature can compensate for small discrepancies between the probe temperature and actual temperature. However, differences of greater than 2°F (1.1°C) should be corrected. The method for adjusting the temperature probe is simple, but requires an accurate thermometer (preferably certified) to measure the probe's deviation from the actual temperature:

Place the thermometer into the freezer compartment as close to the cabinet temperature probe as practical. The machine should be operating at or near normal operating temperature. If the thermometer has a sensing probe, make certain that it is not touching any metal in the compartment. Otherwise it may give a false reading.

Wait 5 minutes with the Dispenser operating normally and the door closed.

Check the thermometer reading and compare it with the temperature displayed on the operator panel. The best time to check is just after the compressor shuts off.

If the difference between the display and the thermometer is greater than 2°F (-16.7°C), an adjustment should be made.

Note: Calibration of the temperature probe is performed from the Service Functions menu using the operator panel on the front of the Dispenser, and may require a manager's password to access the menu.

To access the Service menu on the operator panel, press the Menu arrow button until the display shows **Service Menu** with "-----" below **Service menu** is displayed.

If a password is required, the display will show " ---- " below **Service Menu** after pressing the OK button. Enter the manager's password then press the OK button.

Use the Up or Down buttons to scroll through the functions to **Adjust Temp.**, then press the OK Button to select function.

The display will change to **Adjust Temp.** with the current temperature probe reading displayed in the lower right of the display.

Adjust the probe temperature to match the actual temperature using the Up arrow  to raise the displayed temperature or the Down arrow  to lower the displayed temperature.

Note: Displayed temperature is adjusted in increments of 0.1°F (0.06°C).

Once the displayed temperature matches the thermometer temperature, press the OK button to save the calibration and exit the function. The display will return to the Service menu.

Parts Identification

Dispenser Cabinet Assembly

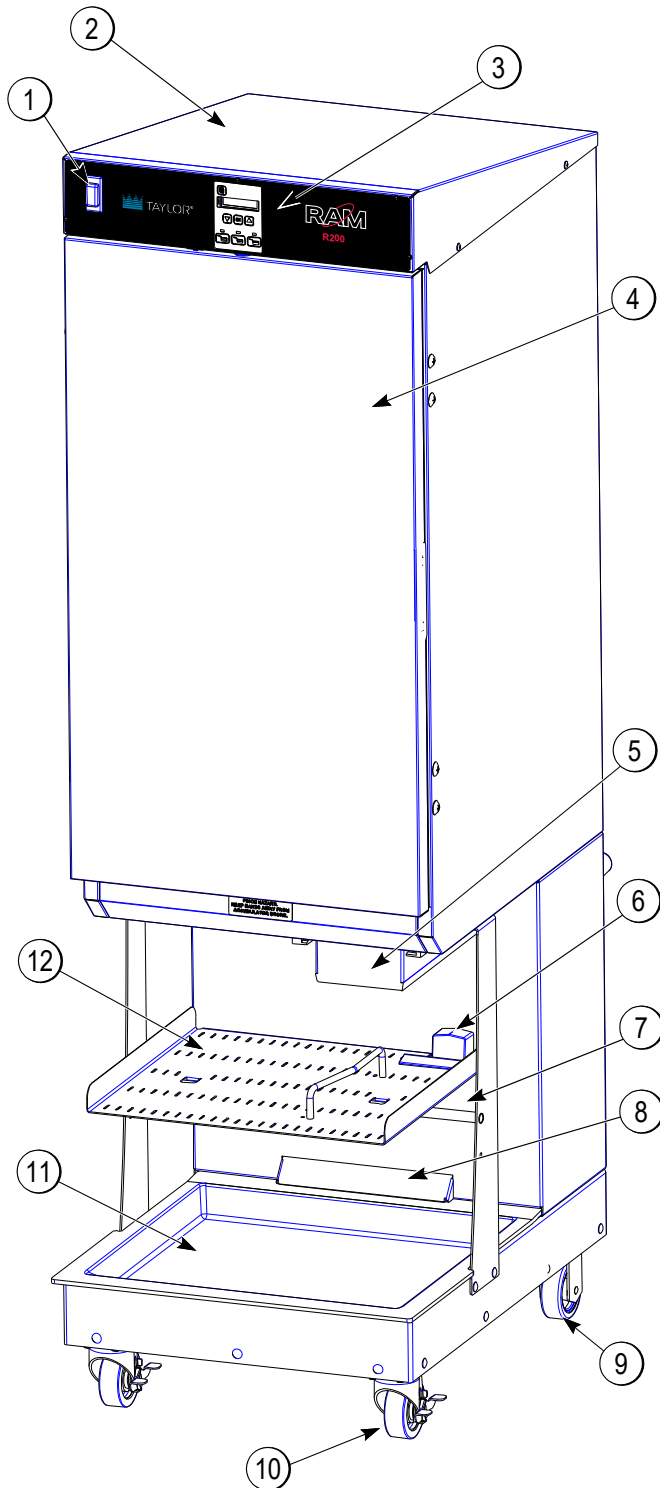
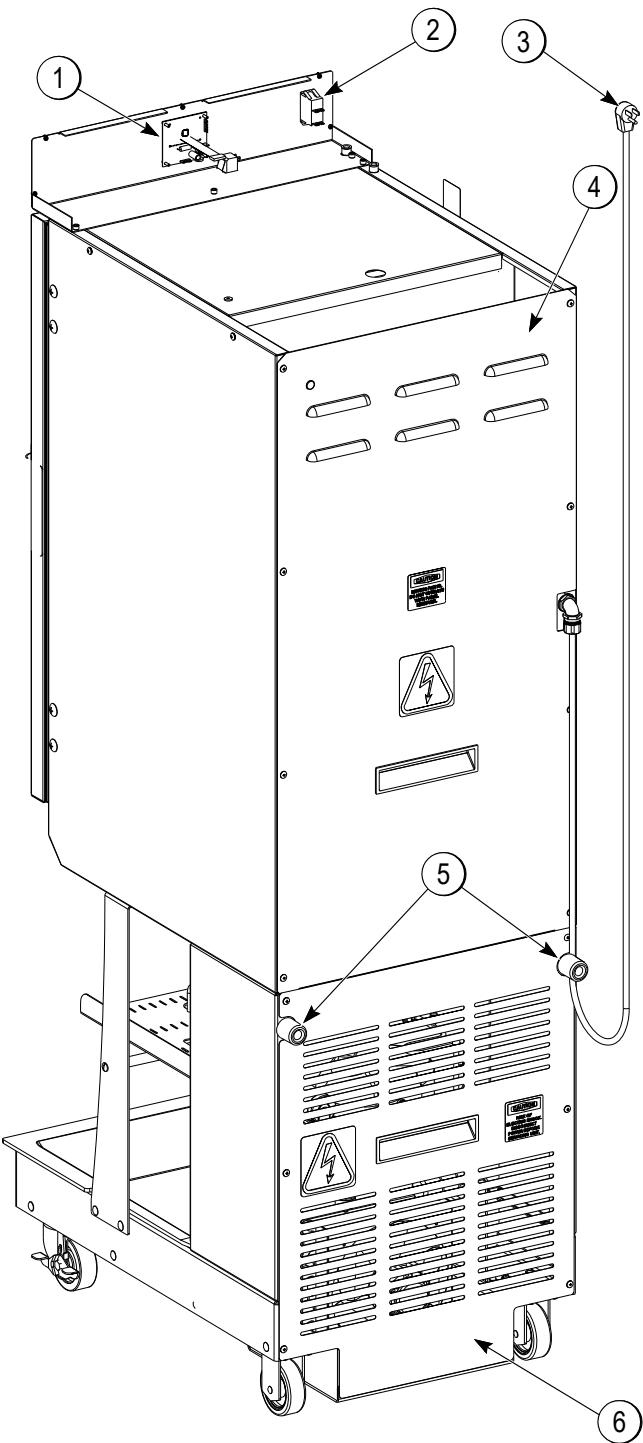


Figure-22

Item	Qty.	Part #	Description
1	1	292246	On/Off Switch (15A Circuit Breaker)
2	1	295748	Top Cover
	9	294824	Screw Truss head Phillips #10-32x1/2"
3	1	295820	Keypad, Membrane
	1	295723	Frame, Operator Panel
	5	213262	Screw Truss Head Slotted 10-32x3/8"
	5	213140	Washer, Lock, #10
4	1	295965	Door Assembly w/Gasket
	1	295830	Door Gasket
	2	293706	Hinge, Door (not pictured)
	4	293855	Screw Truss Head Phillips 3/8-16x1/2"
5	1	295885	Fry Guide
	1	295893	Rail, Mounting, Fry Guide, Right
	1	295905	Rail Mounting Fry Guide Left
	4	292106	Screw Flat Head Slotted #8-32 x 1 In.
	1	295234	Hard Stop
	1	291791	Screw Pan Head Slotted #8-32x1-1/4 "
6	1	See Page 33	Sensor Basket Assembly
7	2	295781	Support Bar, Basket Rack
	2	213571	Screw Truss Head Slotted 1/4-20x 3/4"
8	2	295845	Condenser Filter (Not shown)
9	2	293434	Caster, Rear
	8	200774	Screw Hex-Head 5/16-18x3/4"
	8	290012	Nut Hex 5/16-18
	8	216159	Washer 5/16
10	2	216596	Caster, Front
	8	200774	Screw Hex-Head 5/16-18x3/4"
	8	290012	Nut Hex 5/16-18
	8	216159	Washer 5/16
11	1	295780	Drip Tray
12	1	295736	Assembly Basket Rack
	1	294021	Basket Guide Bar
	2	290000	Screw Truss Head Slotted 10-32x3/8"
	1	295783	Basket Stop
	2	293498	Screw Truss Head Slotted 10-32x1/4"
Not shown	1	293399	Power Cord (Dom.120V) Power Cord
		294129	(Int. 240V Euro)
Not shown	1	291050	Basket, Fry
		291051	Case of 6 Fry Baskets
Not shown	1	295771	Door Heater Wire (Dom.120V)
		295770	Door Heater Wire (Int. 240V)

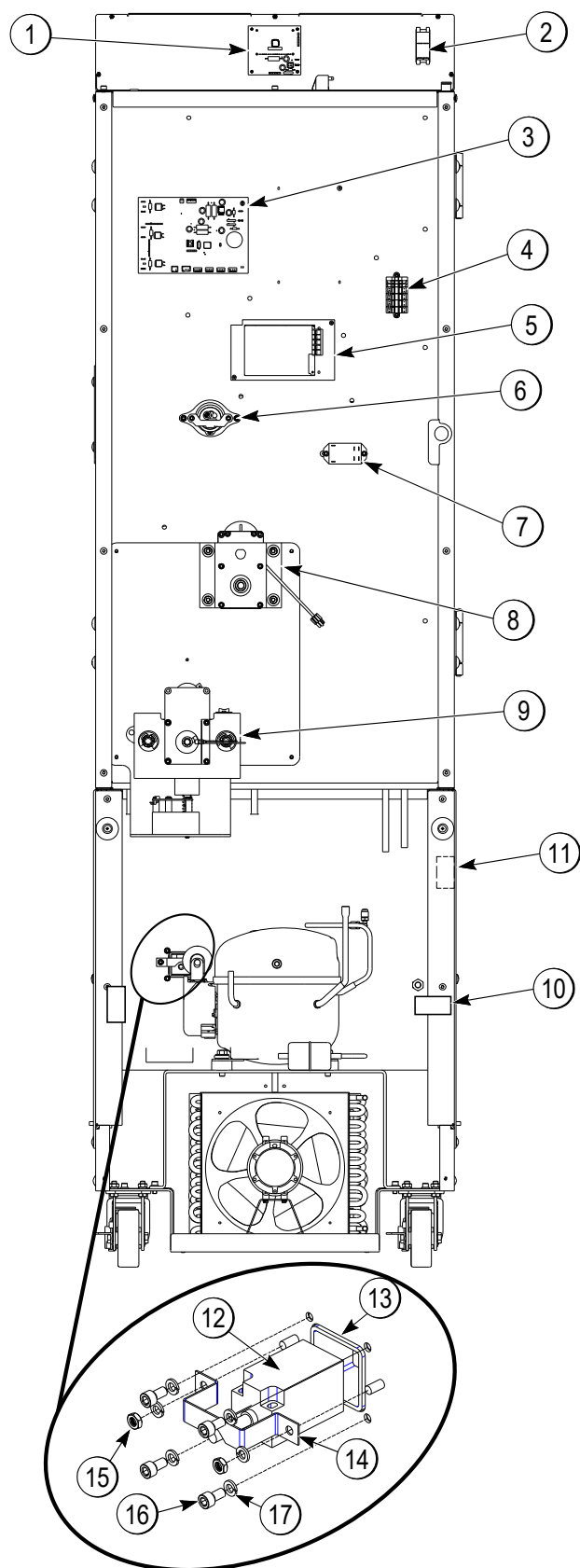
Dispenser Cabinet Exterior (rear view)



Item	Qty.	Part #	Description
1	1	295821	Display Control PCB
2	1	292246	On/Off Switch (15A Circuit Breaker)
3	1	293399 294129	Power Cord (Dom. 120V) Power Cord (Int. 240V Euro)
4	1	295777	Upper Back Panel
	1	295653	Handle, Plastic
	8	294824	Screw, Truss Head, #10-32 x 3/8"
5	1	295681	Kit, Bumper, Wall (set of 2)
6	1	295779	Lower Back Panel
	1	295653	Handle, Plastic
	6	294824	Screw, Truss Head, #10-32 x 3/8"

Figure-23

Dispenser Cabinet interior (rear view)



Item	Qty.	Part #	Description
1	1	295821	Display Control PCB
2	1	292246	On/Off Switch (15A Circuit Breaker)
3	1 1	295397 202795	Controller PCB Screw, Grounding
4	1	293401	Upper Terminal Block
5	1	380051	Power Supply, Universal
6	1	See page 42	Low Fry Sensor Assembly
7	1 2	293405 213262	Refrigeration Relay Screw, Socket Head 10-32x3/8"
8	1	See page 42	Drum Motor Assembly
9	1	See page 38 and 39	Accumulator Assembly
10	1	293734 293974	Feedback Relay (Dom.120V) Feedback Relay (Int. 240V)
11	1	293404	Lower Terminal Block
12	1	296227	Sensor, Basket
13	2	295799	Window, Sensor, Basket
14	1	295800	Bracket, sensor, Basket
15	2	213138	Nut, Hex, #10-32
16	4	295819	Screw, Socket head, #10-24 x 3/8"
17	6	213140	Washer, lock, #10
Not shown	1	295515 295516	Heater Wire, Accum. (Dom. 120V) Heater Wire, Accum. (Int. 220V)

Figure-24

Interior Cabinet Components

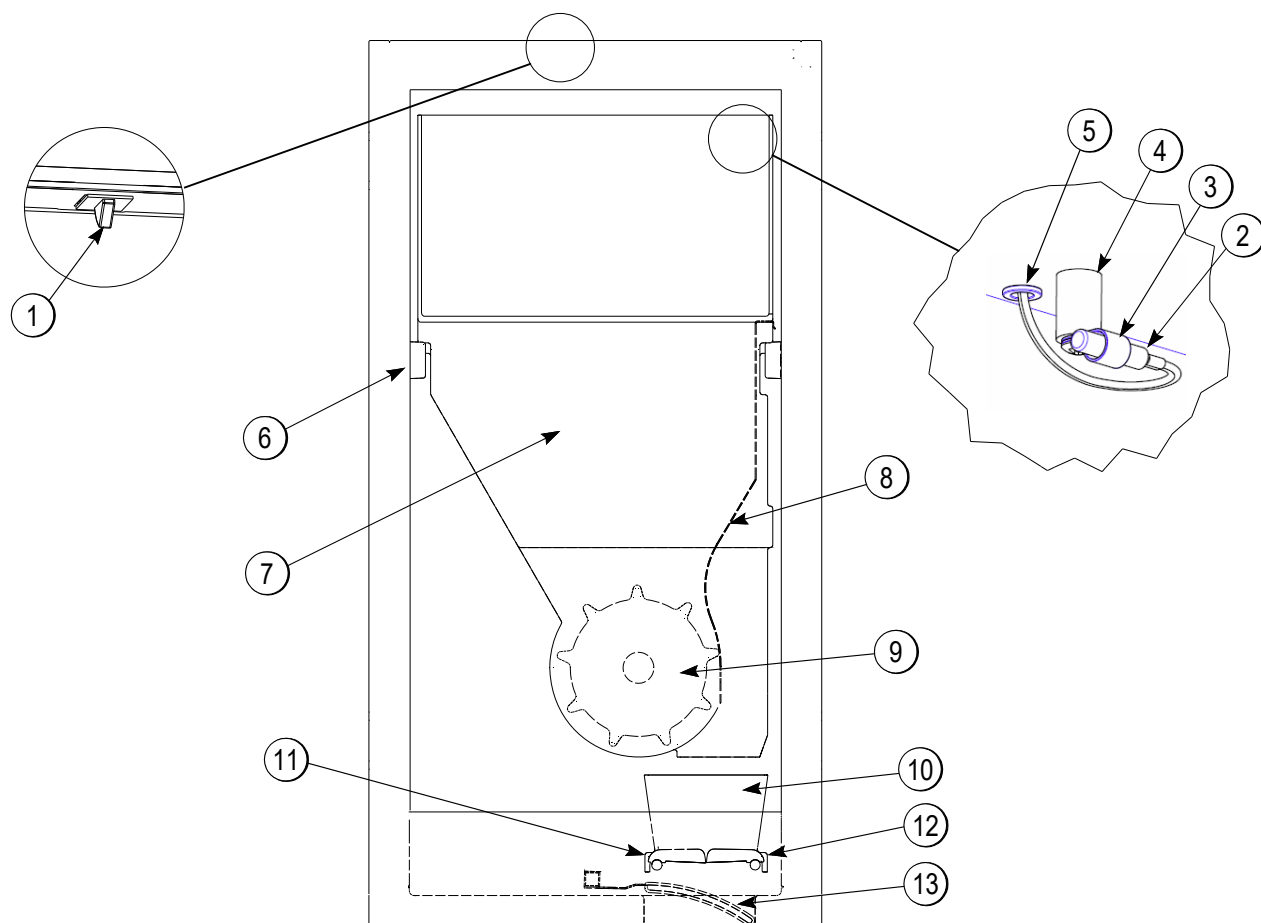


Figure-25

Item	Qty	Part#	Description
1	1	294407	Door Switch
2	1	295853	Kit, Probe, Temperature
3	1	295824	P-Clip, Probe
4	1	295234	Spacer
5	1	295239	Snap Bushing
6	4	295699	Hopper Support, Sidewall (L or R)
	8	293720	Screw Flat-head SS #10-32x 1"
7	1	295696	Hopper
8	1	295697	Diverter, Fry
9	1	202366	Drum, High Tolerance

Item	Qty	Part#	Description
10	1	295714	Housing, Accumulator (Before Serial #s 20FR2001B02418 and 20PR2001B00197)
		294416	Housing, Accumulator (After Serial #s 20FR2001B02417 and 20PR2001B00196)
11	1	*294351	Door Accumulator LH
12	1	*294350	Door Accumulator RH
13	1	293376	Door, Flap
Not shown	1	295538	Kit, Mounting Blocks, Flap Door
Not shown	1	295942	Storage Guide

Note: If replacing an accumulator door in a Dispenser with a serial # before 20FR2001B02418 or 20PR2001B00197, both the accumulator doors and accumulator housing (294416) must be replaced.

Weighing System Assembly

(Before Serial No. 20FR2001B02418 and 20PR2001B00197)

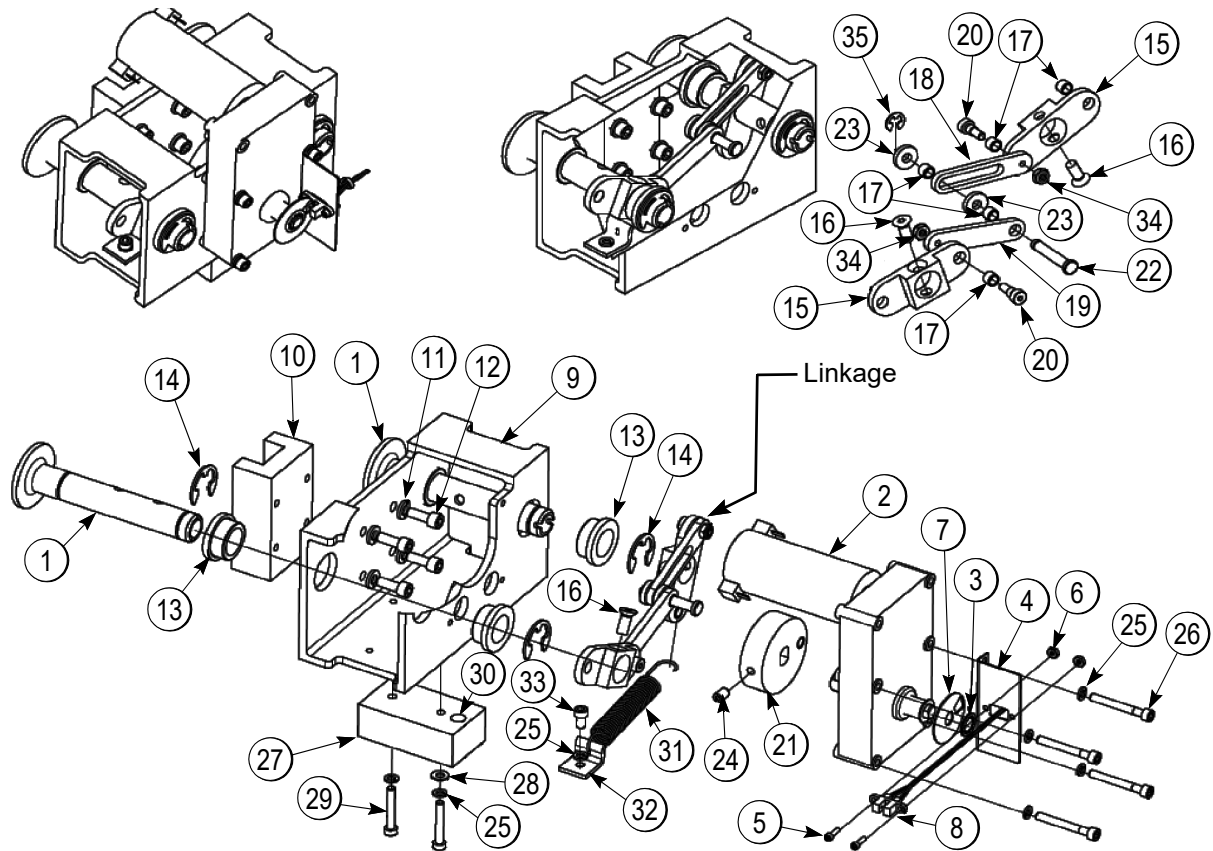


Figure-26

Item	Qty	Part#	Description
1	2	293322	Weldment, Arm Support
2	1	294009	Kit Acc Motor Includes item 3 & 7
3	1	290525	Retaining Ring Self-Locking 3/8"
4	1	290504	Bracket Mount, Home Sensor
5	2	213663	Screw 4-40 x 3/8" Socket Head
6	2	290529	Nut, hex #4-40
7	1	293328	Encoder Disk
8	1	296225	Accumulator Home Sensor
9	1	293146	Extrusion, Accumulator Housing
10	1	202068	Assembly, Linear Bearing 180mm
11	4	213142	Washer, Split-lock 1/4"
12	4	203097	Screw, Socket HD, M6x1x16mm
13	4	290517	Flange Bearing 3/4" ID x 1" OD x 1/2"
14	4	290531	Retaining Ring E-Style 1/2"
15	2	293154	Accumulator Toggle
16	2	213549	Screw Socket Flat-Head 1/4"-20x5/8"
17	5	203259	Bearing Sleeve 1/4"ID x 5/16"OD x 1/4"
18	1	293155	Link, Accumulator

Item	Qty	Part#	Description
19	1	293323	Link, Accumulator, Push
20	2	290635	Screw, Shoulder, 1/4"x 1/4", #10-24
21	1	294693	Kit, Drive Wheel
22	1		Pin, Clevis (Available in kit 294693)
23	2	293325	Washer, Spacer 0.25 ID x 0.12"
24	1	290295	Set Screw, 1/4-20 x 0.375"
25	5	213140	Washer, lock, #10
26	4	213518	Screw, Socket-head cap 10-32x1 1/2"
27	1	380049	Kit, Block, Magnet Mount (includes magnet)
28	2	213139	Washer, Flat, #10 (Rev A only)
29	2	213136	Screw Socket-head cap #10-32x1 1/4"
30	1		Magnet (Available - Kit 380049 only)
31	1	293384	Spring, Extension
32	1	293390	Bracket, Spring Base
33	1	213262	Screw Socket-head cap M6x1x16mm
34	2	204761	Nut Nylon lock Hex 18-8 SS, 5/16-18
35	1	310109	E-Clip, 1/4in SS Retaining Ring

Weighing System Assembly

(After Serial No. 20FR2001B02417 and 20PR2001B00196)

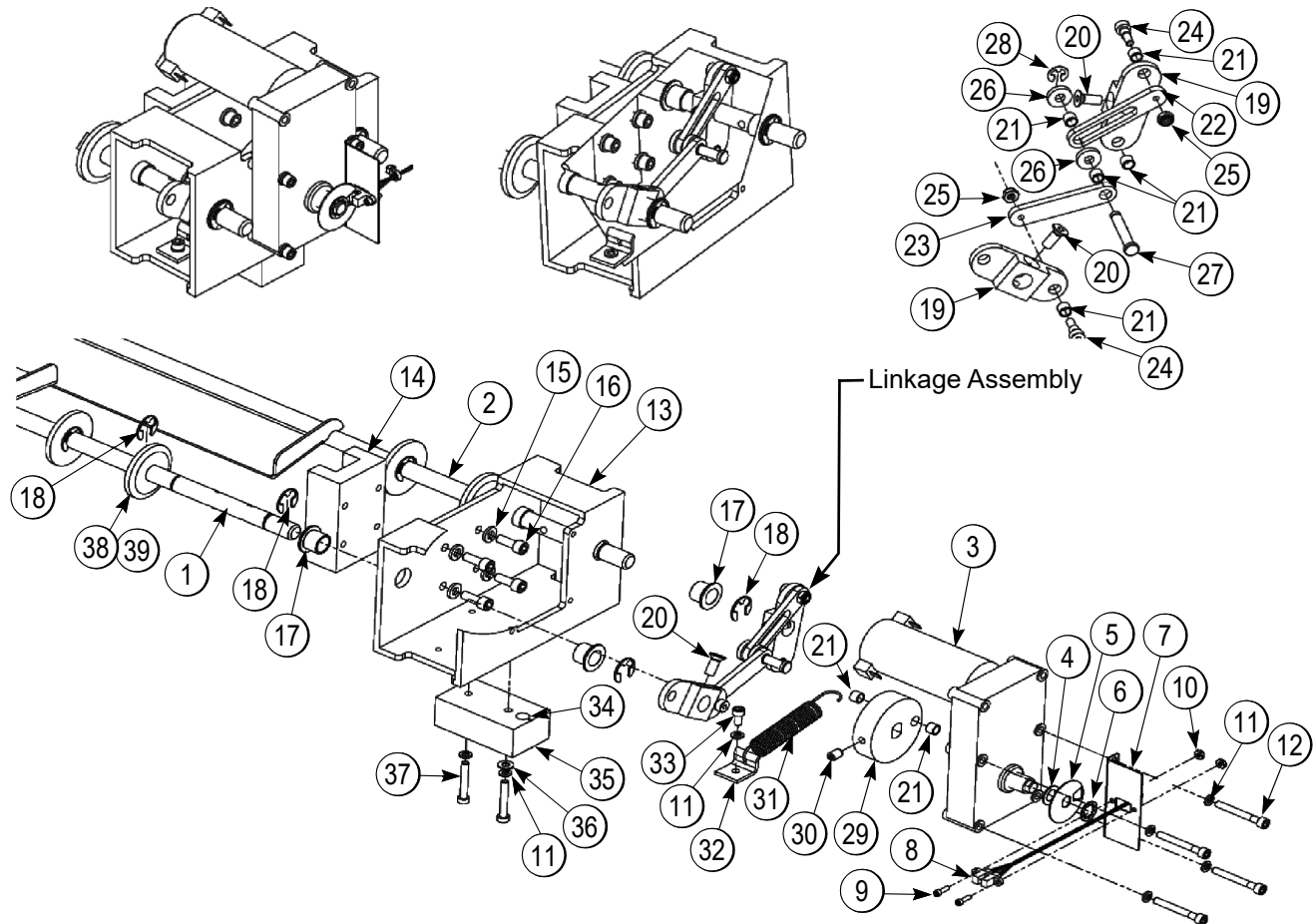


Figure-27

Item	Qty	Part#	Description
1	1	294350	Accumulator Door, RH
2	1	294351	Accumulator Door, LH
3	1	294009	Kit Acc Motor Includes item 5 and 6
4	1	293936	Washer Flat 0.625 in. OD 0.39 in. ID
5	1	293328	Encoder Disk
6	1	290525	Retaining Ring Self-Locking 3/8"
7	1	290504	Bracket, Home Sensor Mount
8	1	296225	Kit, Accumulator Home Sensor
9	2	213663	Screw #4-40 x 3/8" Socket Head
10	2	290529	Nut, Hex, #4-40
11	7	213140	Washer, Lock, #10
12	4	213518	Screw SocketHead Cap10-32 1-1/2"
13	1	310195	Extrusion, Accumulator Housing
14	1	202068	Assembly, Linear Bearing
15	4	213142	Washer, Split-Lock 1/4"
16	4	203097	Screw, Socket Head, M6 x 16mm

Item	Qty	Part#	Description
17	4	290517	Flange Bearing 3/4" ID x 1" OD x1/2"
18	8	213356	Retaining Ring, E-Style, 1/2"
19	2	310196	Accumulator Toggle, No Guides
20	2	213549	Screw Socket FlatHead 1/4-20 x5/8"
21	7	203259	Bearing Sleeve 1/4" ID x 5/16" OD x 1/4"
22	1	293155	Link, Accumulator
23	1	293323	Link, Accumulator, Push
24	2	290635	Screw Shoulder, #10-24 1/4" x 1/4"
25	2	204761	Nut Nylon Lock Hex 18-8 SS 5/16-18
26	2	293325	Washer, Spacer, 0.25" ID x 0.12"
27	1		Pin, Clevis (Available in Kit 294693)
28	1	310139	Retaining Ring, E-Style, 1/4"
29	1	294693	Kit, Drive Wheel
30	1	290295	Set Screw, 1/4-20 x 0.375"
31	1	293384	Spring, Extension
32	1	293390	Bracket, Spring Base

Weighing System Assembly (Cont.)**(After Serial No. 20FR2001B02417 and 20PR2001B00196)**

Item	Qty	Part#	Description
33	1	213262	Screw SocketHead Cap #10-32 x $\frac{3}{8}$ "
34	1		Magnet (Available in Kit 380049 only)
35	1	380049	Kit, Block, Magnet Mount (includes Magnet)
36	1	213139	Washer, Flat, #10
37	2	213136	Screw SocketHead Cap #10-32 x $1\frac{1}{4}$ "
38	4	293596	Collar, Accumulator Shaft, White
39	4	203257	O-ring 11/16 in. OD x $\frac{1}{2}$ in. ID x $\frac{3}{32}$ in.

Dispensing System Assembly

(Before Serial No. 20FR2001B02418 and 20PR2001B00197)

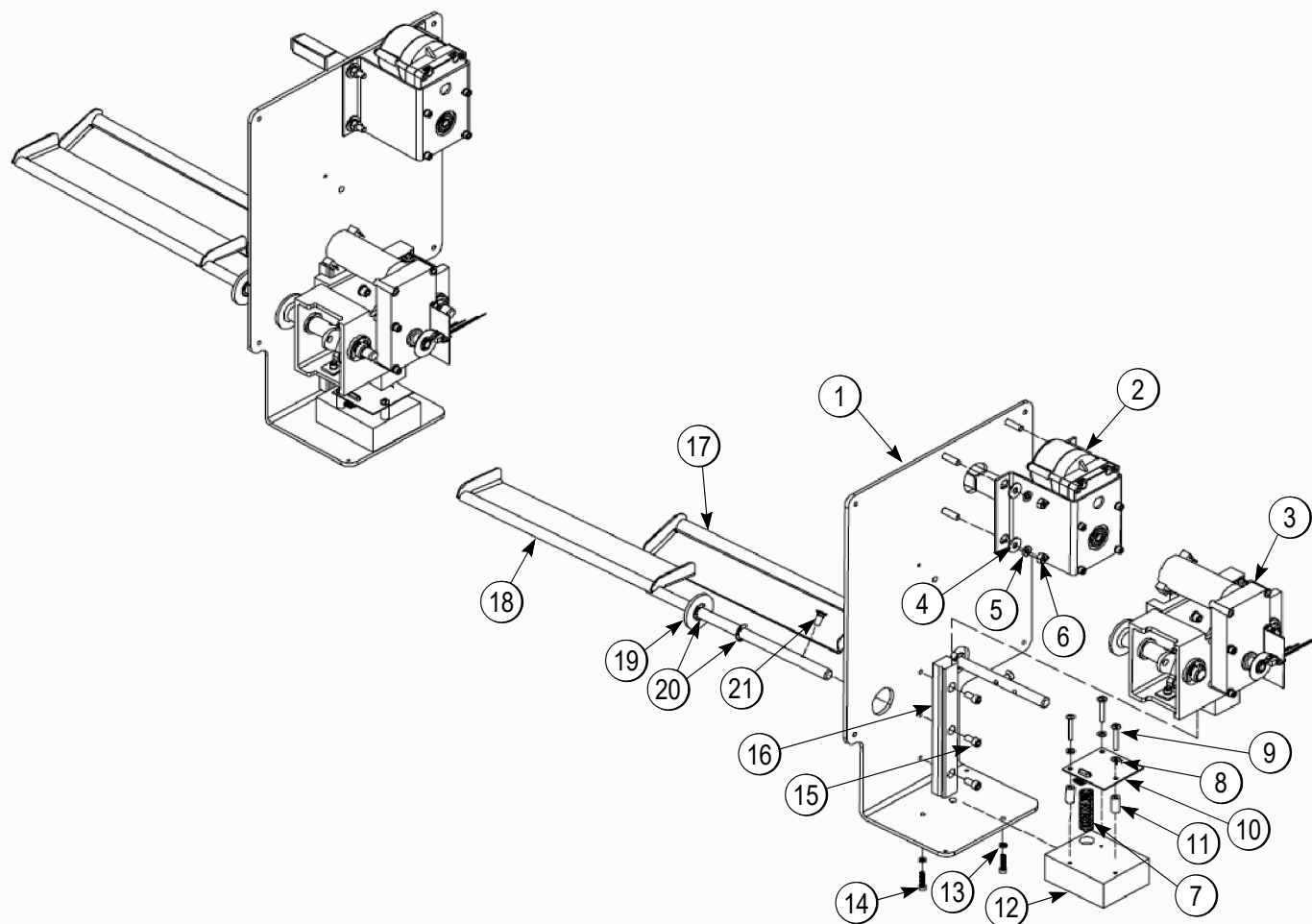


Figure-28

Item	Qty	Part#	Description
1	1	295380	Mechanical Panel
	4	213559	Screw, Truss HD, 10-32x1/2" SST
2	1	N/A	Assembly, Drum Motor w/ Mount
3	1	N/A	Assembly, Weighing System
4	4	213141	Flat washer, 1/4"
5	4	213142	Washer, split lock, 1/4"
6	4	213260	Hex nut, 1/4-20
7	1	290656	Spring, compression, NCWS
8	1	293566	Washer, Nylon, 0.173x0.375x0.054"
9	3	291308	Screw Trusshead Phillips #8-32x1 1/4"
10	1	290519	Circuit Board, NCWS
11	3	292252	Standoff, Nylon, Unthreaded, 0.75"L

Item	Qty	Part#	Description
12	1	294775	Kit, NCWS Base
13	2	213140	Washer, Lock ,Reg Spr, ZP #10.ipt
14	2		Screw, SH Cap, included in 294775
15	3	213143	Screw, SH Cap, 1/4-20x1/2" L
16	1	202068	Assembly, Linear Bearing, 180mm
17*	1	*294351	Accumulator Door LH
18*	1	*294350	Accumulator Door RH
19	2	293596	Collar, Accumulator shaft, UHMW
	2	203257	O-ring Buna-N 11/16"ODx1/2"IDx3/32"
20	4	213356	Ring, Retaining, E-style, ZP, 1/2"
21	2	213549	FH Cap Screw Socket ZP 1/4-20x5/8"L

***Note:** If replacing an accumulator door in a Dispenser with a serial # before 20FR2001B02418 or 20PR2001B00197, both the accumulator doors and accumulator housing (294416) must be replaced.

Dispensing System Assembly

(After Serial No. 20FR2001B02417 and 20PR2001B00196)

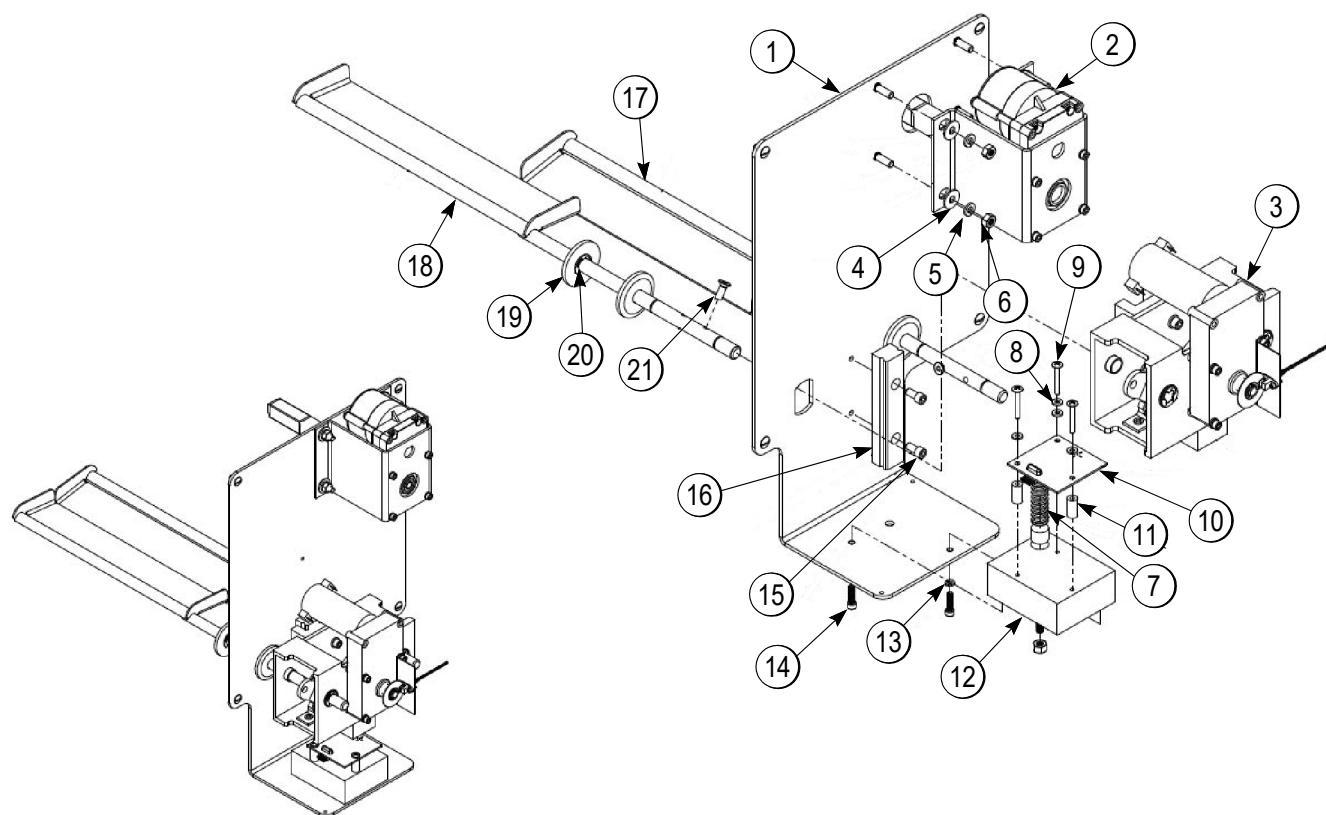


Figure-29

Item	Qty	Part#	Description
1	1	295380	Mechanical Panel
	4	213559	Screw, Truss HD, 10-32x1/2" SST
2	1	N/A	Assembly, Drum Motor w/ Mount
3	1	N/A	Assembly, Weighing System
4	4	213141	Flat Washer, 1/4"
5	4	213142	Washer, Split Lock, 1/4"
6	4	213260	Hex Nut, 1/4-20
7	1	290656	Spring, Compression, NCWS
8	1	293566	Washer, Nylon, 0.173x0.375x0.054"
9	3	291308	Screw Trusshead Phillips #8-32x1 1/4"
10	1	290519	Circuit Board, NCWS
11	3	292252	Standoff, Nylon, Unthreaded, 0.75"L

Item	Qty	Part#	Description
12	1	294775	Kit, NCWS Base
13	2	213140	Washer, Lock ,Reg Spr, ZP #10.ipt
14	2		Screw, SH Cap, included in 294775
15	3	213143	Screw, SH Cap, 1/4-20x1/2" L
16	1	202068	Assembly, Linear Bearing, 180mm
17	1	294351	Accumulator Door LH
18	1	294350	Accumulator Door RH
19	2	293596	Collar, Accumulator Shaft, UHMW
20	2	203257	O-ring Buna-N 11/16"ODx1/2"IDx3/32"
20	4	213356	Ring, retaining, E-style, ZP, 1/2"
21	2	213549	FH Cap Screw Socket ZP 1/4-20x5/8"L

Drum Motor Assembly

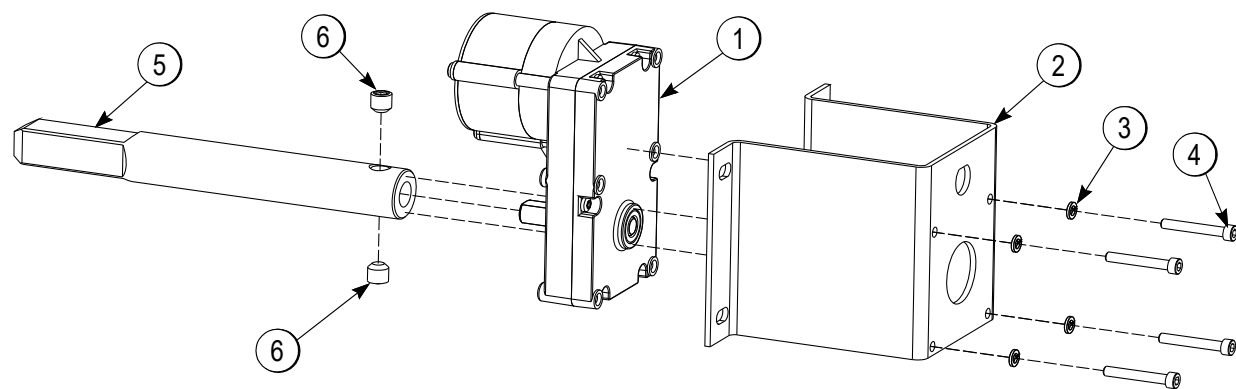


Figure-30

Item	Qty	Part#	Description
1	1	292546	Motor, Gear, Brushless, 24 VDC
2	1	202797	Bracket, Mount, Drum motor.
3	4	213140	Washer, Lock, #10

Item	Qty	Part#	Description
1	1	292546	Motor, Gear, Brushless, 24 VDC
2	1	202797	Bracket, Mount, Drum motor.
3	4	213140	Washer, Lock, #10

Low Fry Sensor Assembly

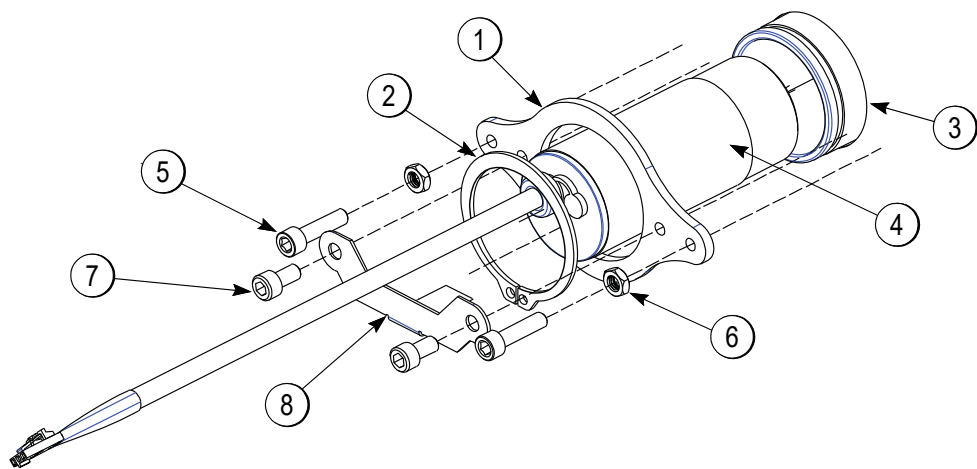


Figure-31

Item	Qty	Part#	Description
1	1	295794	Brace, Sensor, Fry Level
2	1	295797	Retaining Ring, Ext. 1 11/16"
3	1	295792	Shroud, Fry Level Sensor
4	1	295833	Sensor, Fry Level

Item	Qty	Part#	Description
5	2	213456	Screw, Socket Head, #10-32 x 3/4"
6	2	213138	Nut, Hex, #10-32
7	2	213262	Screw, Socket Head #10-32 x 3/8"
8	4	293731	Retainer, Sensor, Fry Level

Controller Board

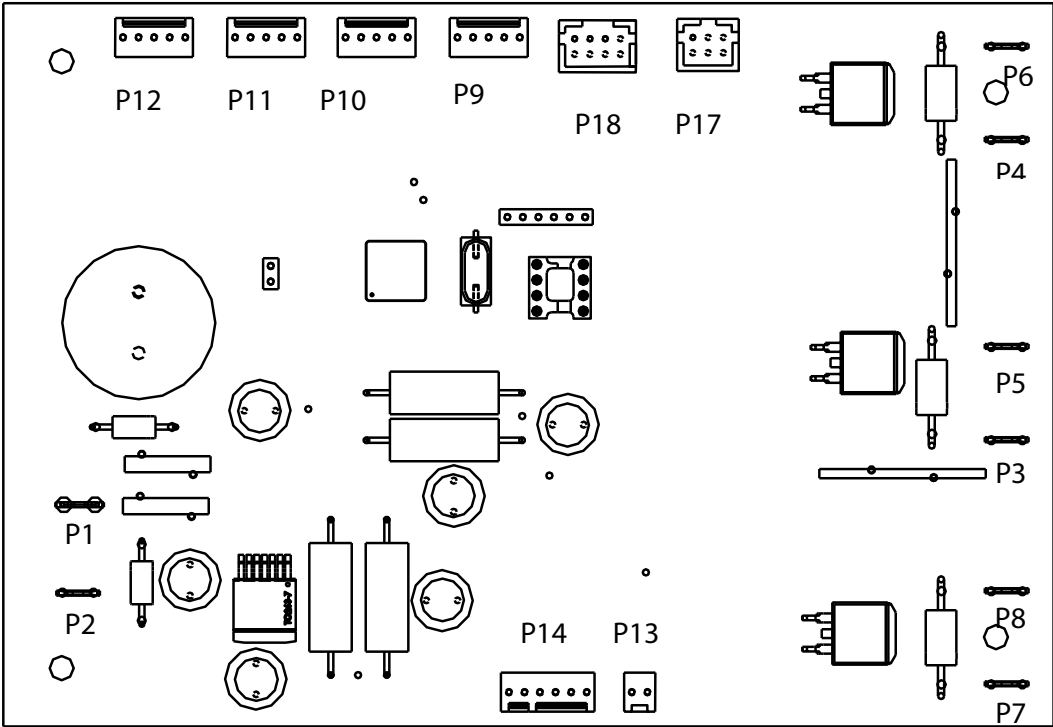


Figure-32

Controller PCB - Part# 295397

Item	Description
P1	Power Input +24VDC
P2	Power Input $\frac{\text{—}}{\text{—}}$ (Ground)
P3	Drum Motor +24VDC
P4	Accum Motor +24VDC
P5	Drum Motor $\frac{\text{—}}{\text{—}}$
P6	Accum Motor $\frac{\text{—}}{\text{—}}$
P7	Ref. Relay +24VDC
P8	Ref. Relay $\frac{\text{—}}{\text{—}}$

Item	Description
P9	Accum Home Encoder
P10	Basket Sensor
P11	High Pressure Switch Relay
P12	Low Fry Sensor
P13	Refrigeration Control Probe
P14	NCWS Board
P17	Display Board
P18	Expansion Connection (not used)

Refrigeration System

General Operation

The RAM® R200 employs a cold wall system. Through the refrigeration process, heat is transferred to the condensing unit at the bottom of the cabinet, where it is expelled to the surrounding outside air. It is extremely important to allow unrestricted airflow for the refrigeration process to function properly.

A minimum of 1.0 in. (2.5 cm) clearance on both sides, 2 in. (5 cm) behind the Dispenser, and 24 in. (61 cm) to the ceiling is recommended.

The temperature control for the RAM® R200 is capable of detecting conditions that fall outside of normal operation. In such cases, the controller will generate and display an error to warn the operator that an abnormal condition exists and corrective action may need to be taken. Some error conditions are easily fixed, while others may require the attention of a qualified service technician.

See pages 22 and 23 for a complete list of error codes and a troubleshooting guide.



CAUTION! Only trained and/or qualified personnel, licensed in refrigeration, should perform service to the refrigeration systems of this equipment. Failure to comply may result in personal injury from moving parts or damage to the machine.

The set point or turn off temperature is the temperature the refrigeration system will attempt to maintain inside the cabinet. The default set point temperature is 0°F (-18°C), and has a range of -5°F to 15°F (-20°C to -9°C). The set point can be changed using the Set Temp function in the Configuration menu (see page 16). Cabinet temperature is displayed on the operator panel during normal operation.

Important! Defrosting. Because the dispenser employs a cold wall design, it will be necessary to manually defrost the cabinet daily. First, remove the product. Turn the On/Off Switch off. Open the cabinet door and allow 1 hour to defrost.



CAUTION! Never use a sharp object to remove frost buildup. Never drill or otherwise puncture cabinet walls or top. Failure to follow this instruction may result in damage to the Dispenser.

Wipe the cabinet dry when defrost is complete.

Required Maintenance

Daily:

Shut off, clean, defrost, and inspect cabinet (see page 10).

Monthly:

Clean and inspect the condenser filter. Replace as necessary.

Every 3 months, or as determined by environmental conditions:

- Inspect the door gasket for proper sealing. Adjust door hinges and/or replace gasket if needed.
- Clean the condenser coils, located behind the condenser filter (See below).

Cleaning the Condenser Filter and Coil

Monthly cleaning of the condensing unit filter will aid the heat transfer characteristics of the refrigeration system, increase its efficiency, and extend the life of the compressor.

To remove the condenser filter, first remove the drip tray. The filter is now visible under the angled filter shield. Lift the filter up and out of the bottom filter bracket. Lower the filter out from under the angled filter shield and remove. The filter can be cleaned in warm, soapy water (HCS). Rinse and shake off the excess water. Replace the filter and drip tray.

Every 3 months clean the condenser coils. The coils are behind the condenser filter. The condenser coils should be cleaned with a vacuum or a soft brush.



CAUTION! Failure to keep the condenser filter and coil clean and clear of obstructions could result in temperature loss and damage to the compressor and may void the warranty.

Important! Keep ventilation openings in the machine enclosure, particularly in the back bottom panel, clear of obstruction.

Refrigeration System Components

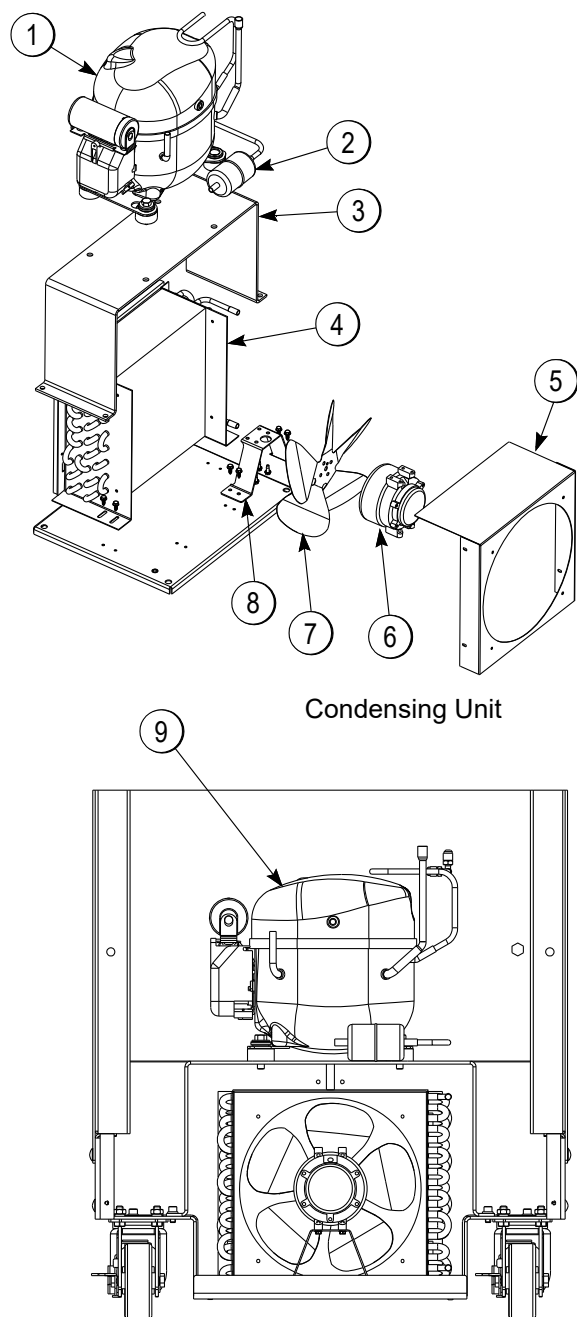


Figure-33

Item	Qty.	Part #	Description
1	1	294339	Compressor Domestic R404A (120V 1/2HR)
		294723	Compressor International R404A (240V 1/2HR)
		295258	Compressor International R290 only (240V 1/2HP)
2	1	292501	Filter Drier
3	1	295782	Bracket, Support Compressor
4	1	295596	Condenser
	4	295707	Screw, Sheet Metal, #8x1/2"
5	1	295603	Fan Shroud
6	1	295773	Condenser Fan Motor (Dom.120V)
		295608	Condenser Fan Motor (Int. 240V)
	4	295588	Screw, #8-28 x 7/16"
7	1	295601	Blade, Condenser Fan
8	1	293982	Bracket, Fan Mounting
	4	295707	Screw, Sheet Metal, #8 x1/2"
9	1	294739	Overload Switch (1/2hp Dom.120V)
		294781	Overload Switch (1/2hp Int. 240V)
		295666	Overload Switch, (Model R280, R290 only) (1/2hp Int. 240V)
	1	294738	Start Relay (1/2hp Dom. 120V)
		294780	Start Relay (1/2hp Int. 240V)
		295667	Start Relay, (Model R280, R290 only) (1/2hp Int. 240V)
	1	293985	Start Capacitor (1/2hp Dom. 120V)
		294779	Start Capacitor (1/2hp Int. 240V)
		295665	Start Capacitor (Model R280, R290 only) (1/2hp Int. 240V)
Not shown	1	296249	Capillary Tube 79" (201cm) 0.093" O.D., 0.040" I.D. (Domestic 120V 60HZ, 1/2 HP Comp.) (not pictured)
		296247	Capillary Tube 110" (279cm) 0.093" O.D., 0.040" I.D. (International 240V 50HZ, 1/2 HP Comp.) (not pictured)
		296248	Capillary Tube (Model R280, R290 only) 116" (295cm) 0.093" O.D., 0.040" I.D. (International 240V 50HZ, 1/2 HP Comp.) (not pictured)
Not shown	1	292740	Switch, High Pressure

Refrigeration Specifications

Refrigerant:

Model R200: R404A - 2.5 oz. (354 g)

Model R200: R290 - 5.15 oz. (146 g)

Suction Pressure: 3 psi to 7 psi at -3°F to 3°F
(21 kPa to 48 kPa at -19°C to -6°C)

Operating Temperature: 5°F to 0°F (-15°C to -18°C)

Factory Temperature Set Point = 0°F (-18°C)

Factory Differential Set Point: 5°F (3°C)

High-Pressure Switch - trips at 425 psi (2,930 kPa)

- resets at 325 psi (2,241 kPa)

Compressor Start Component Wiring

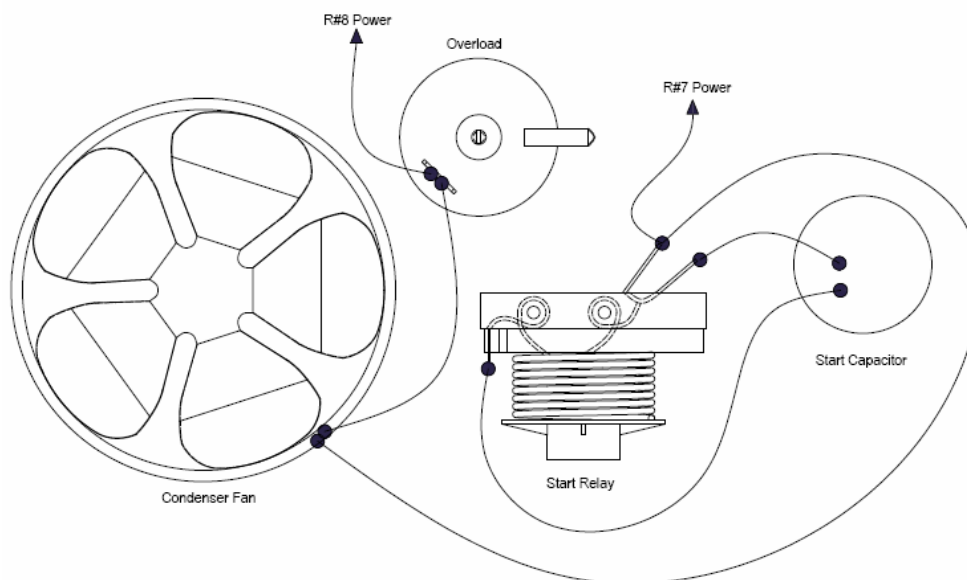


Figure-34

Refrigeration Circuit (R404, R290, R449A Refrigerant)

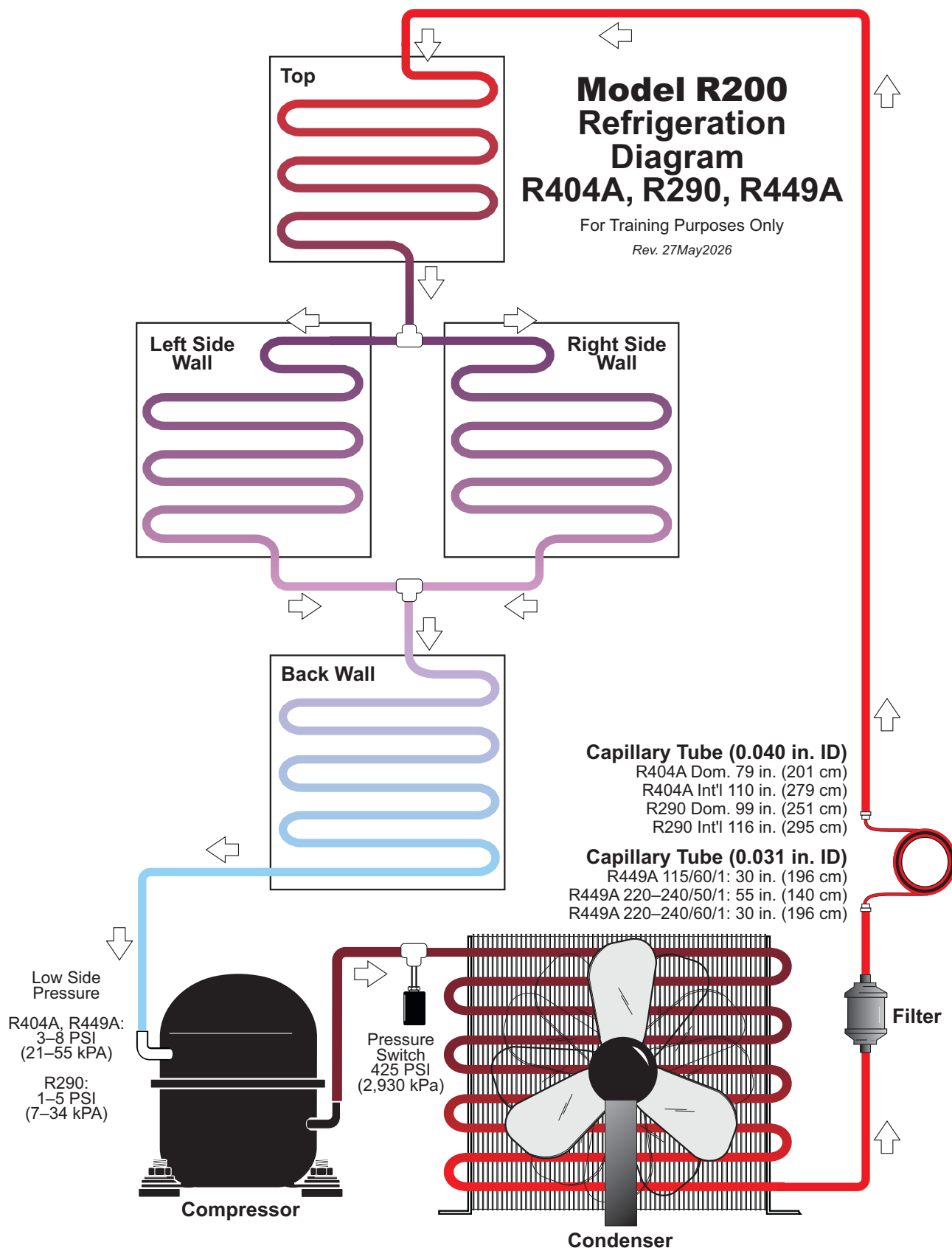


Figure-35

Disposal of Equipment

Before dismantling the equipment, all food should be removed and the equipment thoroughly cleaned.

Dismantling of the equipment must be carried out by qualified personnel in accordance with the manufacturer's instructions.

Dispose of the equipment in accordance with local regulations. It is important to observe the regulations and laws for disposing of environmentally unfriendly materials. You must understand and follow the proper procedures for the disposal of materials, such as refrigerants, insulation, or plastics.

CAUTION: Release of refrigerant into the atmosphere is strictly prohibited!

Electrical Diagram

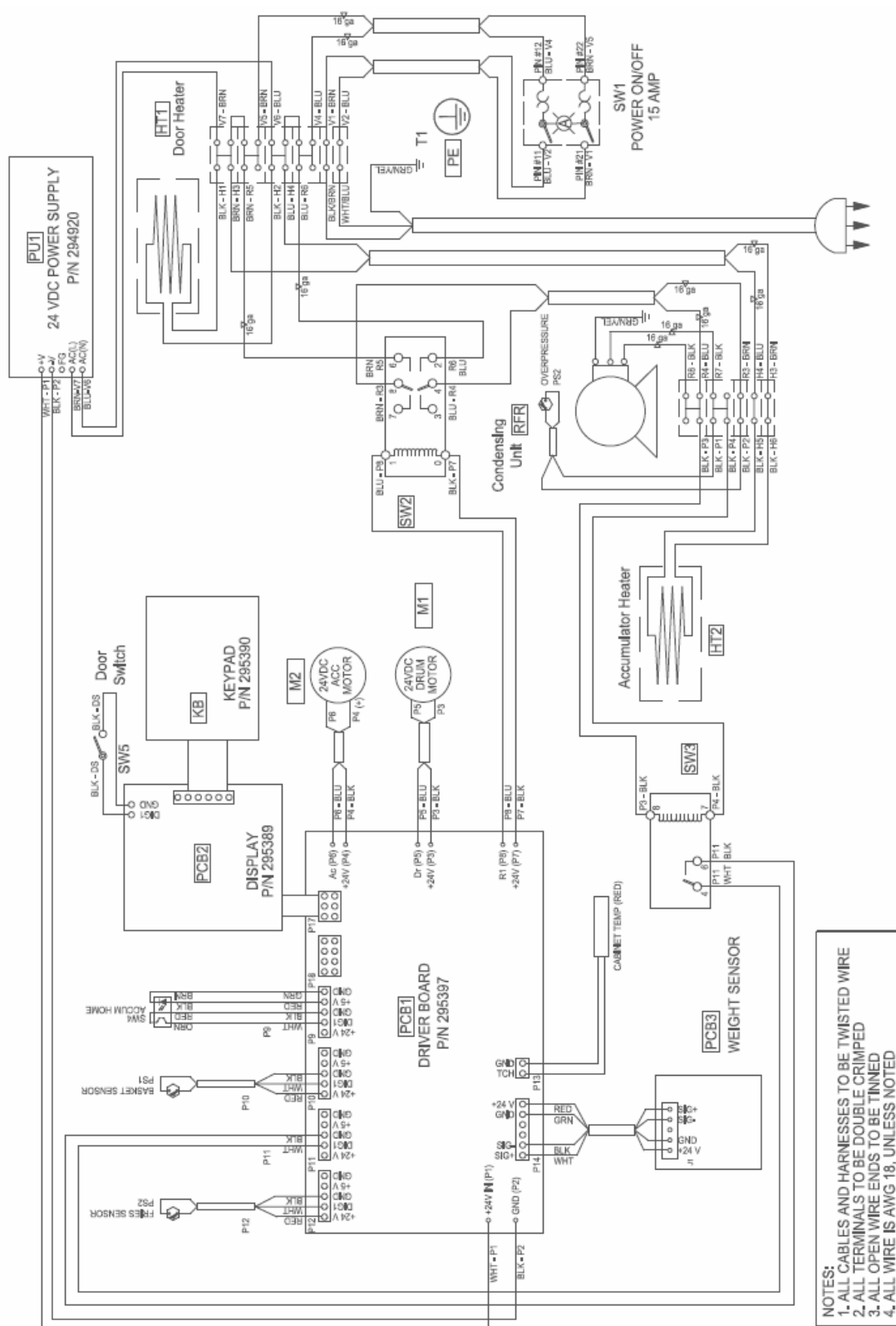


Figure-36

[illegible]

Limited Warranty on Equipment

TAYLOR COMPANY LIMITED WARRANTY ON FREEZERS

Taylor Company is pleased to provide this limited warranty on new Taylor-branded freezer equipment available from Taylor to the market generally (the "Product") to the original purchaser only.

LIMITED WARRANTY

Taylor warrants the Product against failure due to defect in materials or workmanship under normal use and service as follows. All warranty periods begin on the date of original Product installation. If a part fails due to defect during the applicable warranty period, Taylor, through an authorized Taylor distributor or service agency, will provide a new or remanufactured part, at Taylor's option, to replace the failed defective part at no charge for the part. Except as otherwise stated herein, these are Taylor's exclusive obligations under this limited warranty for a Product failure. This limited warranty is subject to all provisions, conditions, limitations, and exclusions listed below and on the reverse (if any) of this document.

Product	Part	Limited Warranty Period
R200	Refrigeration compressor (except service valve)	Five (5) years
	Parts not otherwise listed in this table or excluded below	Two (2) years

LIMITED WARRANTY CONDITIONS

1. If the date of original installation of the Product cannot be verified, then the limited warranty period begins thirty (30) days from the date of Product Shipment (as indicated by the Product serial number). Proof of purchase may be required at time of service.
2. This limited warranty is valid only if the Product is installed and all required service work on the Product is performed by an authorized Taylor distributor or service agency, and only if genuine, new Taylor parts are used.
3. Installation, use, care, and maintenance must be normal and in accordance with all instructions contained in the Equipment Manual.
4. Defective parts must be returned to the authorized Taylor distributor or service agency for credit.
5. The use of any refrigerant other than that specified on the Product's data label will void this limited warranty.

LIMITED WARRANTY EXCEPTIONS

This limited warranty does **not** cover:

1. Except as otherwise specifically set forth in this limited warranty, labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of defective parts, replacement parts, or new Products.
2. Normal maintenance, cleaning, and lubrication as outlined in the Equipment Manual, including cleaning of condensers.
3. Replacement of wear items designated as Class "000" parts in the Equipment Manual.
4. External hoses, electrical power supplies, and machine grounding.
5. Parts not supplied or designated by Taylor, or damages resulting from their use.
6. Return trips or waiting time required because a service technician is prevented from beginning warranty service work promptly upon arrival.
7. Failure, damage, or repairs due to faulty installation, misapplication, abuse, no or improper servicing, unauthorized alteration, or improper operation or use as indicated in the Equipment Manual, including but not limited to the failure to use proper assembly and cleaning techniques, tools, or approved cleaning supplies.

-
8. Failure, damage, or repairs due to theft, vandalism, wind, rain, flood, high water, water, lightning, earthquake, or any other natural disaster, fire, corrosive environments, insect or rodent infestation, or other casualty, accident or condition beyond the reasonable control of Taylor; operation above or below the electrical or water supply specification of the Product; or components repaired or altered in any way so as, in the judgment of the Manufacturer, to adversely affect performance, or normal wear or deterioration.
 9. Failure to start due to voltage conditions, blown fuses, open circuit breakers, or damages due to the inadequacy or interruption of electrical service.
 10. Electricity or fuel costs, or increases in electricity or fuel costs from any reason whatsoever.
 11. Damages resulting from the use of any refrigerant other than that specified on the Product's data label will void this limited warranty.
 12. **ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER.** Some jurisdictions do not allow the exclusion of incidental or consequential damages, so this limitation may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

LIMITATION OF WARRANTY

THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS, AND/OR REMEDIES UNDER THE LAW, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ORIGINAL OWNER'S SOLE REMEDY WITH RESPECT TO ANY PRODUCTS SHALL BE REPAIR OR REPLACEMENT OF DEFECTIVE COMPONENTS UNDER THE TERMS OF THIS LIMITED WARRANTY. ALL RIGHTS TO CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING CLAIMS FOR LOST SALES, LOST PROFITS, PRODUCT LOSS, PROPERTY DAMAGES, OR SERVICE EXPENSES) ARE EXPRESSLY EXCLUDED. THE EXPRESS WARRANTIES MADE IN THIS LIMITED WARRANTY MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON, WHATSOEVER.

LEGAL REMEDIES

The owner **must** notify Taylor in writing, by certified or registered letter to the following address, of any defect or complaint with the Product, stating the defect or complaint and a specific request for repair, replacement, or other correction of the Product under warranty, mailed at least thirty (30) days before pursuing any legal rights or remedies.

Taylor Company
750 N. Blackhawk Blvd.
Rockton, IL 61072, U.S.A.

Limited Warranty on Parts

TAYLOR COMPANY LIMITED WARRANTY ON TAYLOR GENUINE PARTS

Taylor Company is pleased to provide this limited warranty on new Taylor genuine replacement components and parts available from Taylor to the market (the "Parts").

LIMITED WARRANTY

Taylor warrants the Parts against failure due to defect in materials or workmanship under normal use and service as follows. All warranty periods begin on the date of original installation of the Part in the Taylor unit. If a Part fails due to defect during the applicable warranty period, Taylor, through an authorized Taylor distributor or service agency, will provide a new or remanufactured Part, at Taylor's option, to replace the failed defective Part at no charge for the Part. Except as otherwise stated herein, these are Taylor's exclusive obligations under this limited warranty for a Part failure. This limited warranty is subject to all provisions, conditions, limitations, and exclusions listed below and on the reverse (if any) of this document.

Parts Warranty Class Code or Part	Limited Warranty Period
Class 103 Parts	Three (3) months
Class 212 Parts	Twelve (12) months
Class 512 Parts	Twelve (12) months
Class 000 Parts	No warranty

LIMITED WARRANTY CONDITIONS

1. If the date of original installation of the Part cannot be otherwise verified, proof of purchase may be required at time of service.
2. This limited warranty is valid only if the Part is installed and all required service work in connection with the Part is performed by an authorized Taylor distributor or service agency.
3. The limited warranty applies only to Parts remaining in use by their original owner at their original installation location in the unit of original installation.
4. Installation, use, care, and maintenance must be normal and in accordance with all instructions contained in the Taylor Operator's Manual.
5. Defective Parts must be returned to the authorized Taylor distributor or service agency for credit.
6. This warranty is not intended to shorten the length of any warranty coverage provided pursuant to a separate Taylor Limited Warranty on freezer or grill equipment.
7. The use of any refrigerant other than that specified for the unit in which the Part is installed will void this limited warranty.

LIMITED WARRANTY EXCEPTIONS

This limited warranty does **not** cover:

1. Labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of defective Parts, replacement Parts, or new Parts.
2. Normal maintenance, cleaning, and lubrication as outlined in the Taylor Operator's Manual, including cleaning of condensers or carbon and grease buildup.
3. Required service, whether cleaning or general repairs, to return the cooking surface assemblies, including the upper platen and lower plate, to an operational condition to achieve proper cooking or allow proper assembly of release sheets and clips as a result of grease buildup on the cooking surfaces, including but not limited to the platen and plate, sides of the shroud or top of the shroud.
4. Replacement of cooking surfaces, including the upper platen and lower plate, due to pitting or corrosion (or in the case of the upper platen, due to loss of plating) as a result of damage due to the impact of spatulas or other small wares used during the cooking process or as a result of the use of cleaners, cleaning materials, or cleaning processes not approved for use by Taylor.
5. Replacement of wear items designated as Class "000" Parts in the Taylor Operator's Manual, as well as any release sheets and clips for the Product's upper platen assembly.
6. External hoses, electrical power supplies, and machine grounding.
7. Parts not supplied or designated by Taylor, or damages resulting from their use.
8. Return trips or waiting time required because a service technician is prevented from beginning warranty service work promptly upon arrival.
9. Failure, damage, or repairs due to faulty installation, misapplication, abuse, no or improper servicing, unauthorized alteration, or improper operation or use as indicated in the Taylor Operator's Manual, including but not limited to the failure to use proper assembly and cleaning techniques, tools, or approved cleaning supplies.
10. Failure, damage, or repairs due to theft, vandalism, wind, rain, flood, high water, water, lightning, earthquake, or any other natural disaster, fire, corrosive environments, insect or rodent infestation, or other casualty, accident or condition beyond the reasonable control of Taylor; operation above or below the gas, electrical, or water supply specification of the unit in which a part is installed; or Parts or the units in which they are installed repaired or altered in any way so as, in the judgment of Taylor, to adversely affect performance, or normal wear or
11. Failure to start due to voltage conditions, blown fuses, open circuit breakers, or damages due to the inadequacy or interruption of electrical service.
12. Electricity, gas, or other fuel costs, or increases in electricity or fuel costs from any reason whatsoever.
13. Damages resulting from the use of any refrigerant other than that specified for the unit in which the Part is installed will void this limited warranty.
14. Any cost to replace, refill, or dispose of refrigerant, including the cost of refrigerant.
15. **ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER.** Some jurisdictions do not allow the exclusion of incidental or consequential damages, so this limitation may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

LIMITATION OF WARRANTY

THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS, AND/OR REMEDIES UNDER THE LAW, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ORIGINAL OWNER'S SOLE REMEDY WITH RESPECT TO ANY PRODUCTS SHALL BE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS UNDER THE TERMS OF THIS LIMITED WARRANTY. ALL RIGHTS TO CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING CLAIMS FOR LOST SALES, LOST PROFITS, PRODUCT LOSS, PROPERTY DAMAGES, OR SERVICE EXPENSES) ARE EXPRESSLY EXCLUDED. THE EXPRESS WARRANTIES MADE IN THIS LIMITED WARRANTY MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON, WHATSOEVER.

LEGAL REMEDIES

The owner **must** notify Taylor in writing, by certified or registered letter to the following address, of any defect or complaint with the Part, stating the defect or complaint and a specific request for repair, replacement, or other correction of the Part under warranty, mailed at least thirty (30) days before pursuing any legal rights or remedies.

Taylor Company
750 N. Blackhawk Blvd.
Rockton, IL 61072, U.S.A.

Ordering/Service Information

Taylor distributor: _____

Address: _____

Phone: _____

Date of installation: _____

Data Label

The data label provides necessary information that the operator should record and refer to when calling for parts or service. The data label is located on the rear or left side panel of the freezer.

Complete for quick reference when this information is requested.

1. Model Number: R200
2. Serial Number _____
3. Electrical Specs:
Voltage _____ Cycle _____ Phase _____
4. Maximum Fuse Size: _____ Amps
5. Minimum Wire Ampacity: _____ Amps
6. Part Number: _____

Parts Warranty

See the Limited Warranty on Parts section starting on page 53.

Note: *Constant research results in steady improvements; therefore, information in this manual is subject to change without notice.*

Compressor Warranty Disclaimer

The refrigeration compressor(s) on this unit are warranted for the term stated in the Limited Warranty section in this manual. However, due to the Montreal Protocol and the U.S. Clean Air Act Amendments of 1990, many new refrigerants are being tested and developed, thus seeking their way into the service industry. Some of these new refrigerants are being advertised as drop-in replacements for numerous applications. It should be noted that in the event of ordinary service to this unit's refrigeration system, **only the refrigerant specified on the affixed data label should be used.** The unauthorized use of alternate refrigerants will void your Taylor compressor warranty. It is the unit owner's responsibility to make this fact known to any technician he/she employs.

It should also be noted that Taylor does not warrant the refrigerant used in its equipment. For example, if the refrigerant is lost during the course of ordinary service to this unit, Taylor has no obligation to either supply or provide replacement refrigerant either at billable or unbillable terms. Taylor will recommend a suitable replacement if the original refrigerant is banned, obsoleted, or no longer available during the five-year Taylor warranty of the compressor.

From time-to-time Taylor may test new refrigerant alternates. Should a new refrigerant alternate prove, through Taylor's testing, that it would be accepted as a drop-in replacement for this unit, then the disclaimer in this "Compressor Warranty Disclaimer" section will not apply to the use of the alternate refrigerant approved by Taylor.

To find out the current status of an alternate refrigerant as it relates to your compressor warranty, call Taylor or your local authorized Taylor distributor. Be prepared to provide the model/serial number of the machine in question.

Note: *Continuing research results in steady improvements; therefore, information in this Operator's Manual is subject to change without notice.*

Service Information

Warranty Service

Our Distributor will determine the cause of failure and provide appropriate resolution. Any required replacement parts will be provided by us or by an authorized Service Support Center/Parts Distributor.

Our Distributor will make all reasonable efforts to perform such repairs during normal business hours, and will not be responsible for any after-hours or holiday charges.

Non-Warranty Service

Service is normally conducted by customer appointed personnel, or by contracting a local service technician. The service technician must be licensed in refrigeration to troubleshoot, open, or repair refrigeration and related systems.

Service fees are in accordance with industry standards.

Replacement parts are available through an authorized Taylor distributor or service agency.

Our authorized Taylor distributor or service agency is available for assistance providing product technical support, parts and parts information, and service agent referral.

Record the following information for your records:

Date of Installation

Service Agency Telephone

Serial Number

When repairing this machine, use only replacement parts supplied by us or supplied by our factory-authorized parts distributor. Use of replacement parts other than those supplied by us or by our factory-authorized parts distributor will void the warranty.

All shipping charges are F.O.B. factory, and are subject to change without notice. Prices will be those in affect at the time of shipment.

Taylor Company reserves the right to make suitable substitutions in materials, depending upon their availability.

CAUTION!

Only trained and/or qualified personnel should perform service on this equipment.

Only trained and/or qualified personnel, licensed in refrigeration, should perform service on the refrigeration systems of this equipment.

Service functions described in this manual could cause irreversible damage to the equipment and/or injury to personnel if performed improperly.

If the power cord is damaged, it must be replaced by the manufacturer, or its service agent, or a similarly qualified person to prevent a hazard.

Use of non-OEM parts may create a hazard.
