





M Series Ice Dispensers

Installation, Use & Care Manual

This manual is updated as new information and models are released. Visit our website for the latest manual. www.manitowocfsg.com

Leader in Ice & Beverage Dispensers Part Number 020002392 04/09 Manıtowoc.

Safety Notices

As you work on Manitowoc equipment, be sure to pay close attention to the safety notices in this manual. Disregarding the notices may lead to serious injury and/ or damage to the equipment.

Throughout this manual, you will see the following types of safety notices:

🛦 Warning

Text in a Warning box alerts you to a potential personal injury situation. Be sure to read the Warning statement before proceeding, and work carefully.

A Caution

Text in a Caution box alerts you to a situation in which you could damage the equipment. Be sure to read the Caution statement before proceeding, and work carefully.

Procedural Notices

As you work on Manitowoc equipment, be sure to read the procedural notices in this manual. These notices supply helpful information which may assist you as you work.

Throughout this manual, you will see the following types of procedural notices:

Important

Text in an Important box provides you with information that may help you perform a procedure more efficiently. Disregarding this information will not cause damage or injury, but it may slow you down as you work.

NOTE: Text set off as a Note provides you with simple, but useful, extra information about the procedure you are performing.

Read These Before Proceeding:

A Caution

Proper installation, care and maintenance are essential for maximum performance and troublefree operation of your Manitowoc equipment. Read and understand this manual. It contains valuable care and maintenance information. If you encounter problems not covered by this manual, do not proceed, contact Manitowoc Foodservice Group. We will be happy to provide assistance.

Important

Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.

Warning PERSONAL INJURY POTENTIAL

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

NOTE: SAVE THESE INSTRUCTIONS.

We reserve the right to make product improvements at any time. Specifications and design are subject to change without notice.

Table of Contents

Section 1 General Information

Read This Manual
Jnit Inspection
Model Numbers
How To Read A Model Number
Accessories
Legs
Serial Number Location

Section 2 Installation Instructions

General
Location
Dimensions
Pre-installation Checklist
Double Check:
Also Consider The Location Of The Following Items Before Installation: 2-2
Electrical
General
Minimum Circuit Ampacity 2-3
Electrical Requirements
Voltage
Minimum Circuit Amperage Chart 2-3
Grounding Instructions
Drains
OPTION A
OPTION B
Step by Step Installation
General
Specifications Chart
Unit Installation
Ice Flow

Section 3 Operation	
	General System Overview Sequence of Operation
	Ice Recommended for Dispensing
	Rocking Chute Ice Dispensing. 3-2
	Operation Checks and Adjustments 3-2
Section 4 Maintenance	
	Preventive Maintenance 4-1
	Cleaning
	Daily Cleaning
	Monthly Cleaning 4-2
	Disassembly
	Disassembly for Cleaning and Maintenance
	Disassemble the Rocking Chute 4-3
	Re-Installing the Paddle Wheel Guard 4-4
	Removal Of The Gearmotor 4-4
	Shipping, Storage and Relocation 4-4
Section 5 Before Calling for	Service

Checklist	 	 	5-1

Section 1 General Information

Read This Manual

Manitowoc Beverage Equipment (MBE) developed this manual as a reference guide for the owner/operator and installer of this equipment. Please read this manual before installation or operation of the machine. A qualified service technician must perform installation and start-up of this equipment, consult **Section 5** within this manual for service assistance.

If you cannot correct the service problem, call your MBE Service Agent or Distributor. Always have your model and serial number available when you call.

Your Service Agent ____

Service Agent Telephone Number _____

Your Local MBE Distributor

Distributor Telephone Number_____

Model Number

Serial Number _____

Installation Date _____

Unit Inspection

Thoroughly inspect the unit upon delivery. Immediately report any damage that occurred during transportation to the delivery carrier. Request a written inspection report from a claims inspector to document any necessary claim.

Warning PERSONAL INJURY POTENTIAL

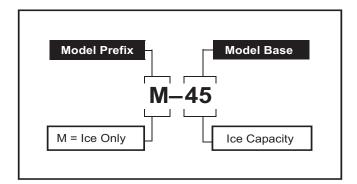
Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

Model Numbers

This manual covers the following models:

Ice Dispensers M-45, M90

HOW TO READ A MODEL NUMBER



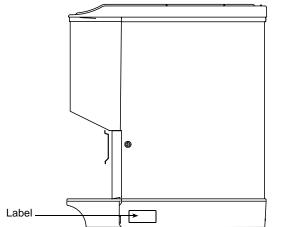
Accessories

LEGS

Legs are optional equipment with most MBE dispensers. Standard legs are 4" (10.2 cm) tall stainless steel legs. If an ice machine is installed on top of the dispenser, legs must not be installed. We do not recommend using legs when an ice machine is mounted on the dispenser. The combined weight of the dispenser, ice and ice machine is more evenly distributed when the base area of the dispenser is in contact with the countertop.

Serial Number Location

This number is required when requesting information from your local distributor. The serial number is listed on the SERIAL NUMBER DECAL affixed to the dispenser.



Serial Number Location

Warranty Information

Consult your local MBE Distributor for terms and conditions of your warranty. Your warranty specifically excludes all beverage valve brixing, general adjustments, cleaning, accessories and related servicing.

Your warranty card must be returned to MBE to activate the warranty on this equipment. If a warranty card is not returned, the warranty period can begin when the equipment leaves the MBE factory.

No equipment may be returned to MBE without a written Return Materials Authorization (RMA). Equipment returned without an RMA will be refused at MBE's dock and returned to the sender at the sender's expense.

Please contact your local MBE distributor for return procedures.

General

These instructions are provided to assist the qualified installer. Contact your Manitowoc Beverage Equipment Service Agent or call Manitowoc Beverage Equipment for information regarding start-up services.

Important

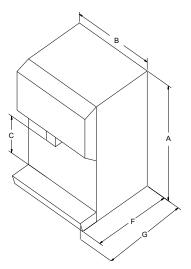
Failure to follow these installation guidelines may affect warranty coverage.

Location

The location selected for the beverage dispenser must meet the following criteria. If any of these criteria are not met, select another location.

- The air temperature must be at least 50°F (10°C), but must not exceed 95°F (35°C).
- The location must not be near heat-generating equipment or in direct sunlight and must be protected from weather.
- The countertop must be level. Verify that the countertop can support the weight of the dispenser, or the dispenser/ice machine combination plus the weight of the stored ice.
- Water lines, drains and power outlet must be within 6' (1.8 m) of location.

Dimensions



M Series	Α	В	С	F	G
45	24.25"	15"	9.75"	26.00"	28"
	(38.10 cm)	(38.01 cm)	(24.8 cm)	(66.00 cm)	(71.10 cm)
90	32.00"	15"	9.75"	26.00"	28"
	(81.30 cm)	(38.10 cm)	(24.8 cm)	(66.00cm)	(71.10cm)

A Caution

Cutting the countertop may decrease its strength. Counter must be braced to support the dispenser countertop weight plus ice storage capacity and weight of icemaker, if applicable.

Pre-installation Checklist

When installing any system, first make sure the major components are available.

DOUBLE CHECK:

Do you have enough space to install the dispenser?



Do you have a minimum of 6 inches (15.3 cm) clearance on all sides?

Water line
Drain

Is the countertop level?

Can the countertop support the weight of the
dispenser plus the weight of the stored ice?

Power outlet

Heating and air conditioning ducts

ALSO CONSIDER THE LOCATION OF THE FOLLOWING ITEMS BEFORE INSTALLATION:

Electrical

GENERAL

A Warning

All wiring must conform to local, state and national codes.

MINIMUM CIRCUIT AMPACITY

The minimum circuit ampacity is used to help select the wire size of the electrical supply. (Minimum circuit ampacity is not the beverage/ice machine's running amp load.) The wire size (or gauge) is also dependent upon location, materials used, length of run, etc., so it must be determined by a qualified electrician.

ELECTRICAL REQUIREMENTS

Refer to Ice Machine Model/Serial Plate for voltage/ amperage specifications.

VOLTAGE

The standard voltage for a M Series dispensers is 120VAC-60Hz. A power cord is provided with 120VAC-60Hz models only. M Series dispensers use a 1/15 hp gearmotor.

MINIMUM CIRCUIT AMPERAGE CHART

Important

Due to continuous improvements, this information is for reference only. Please refer to the dispenser serial number tag to verify electrical data. Serial tag information overrides information listed on this page.

Dispenser	Voltage/Cycle	Minimum Circuit Amps
M-45, M-90	120/60	2.5 FLA
	220/50	1.0 FLA

Grounding Instructions

🛦 Warning

Risk of electrical shock. Connect to a properly grounded outlet only.

This appliance must be grounded. In the event of malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

🛦 Warning

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment grounding conductor. If repair or replacement of the cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the appliance is properly grounded. Do not modify the plug provided with the appliance if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

A Warning

When using electric appliances, basic precautions should always be followed, including the following:

- a. Read all the instructions before using the appliance.
- b. To reduce the risk of injury, close supervision is necessary when an appliance is used near children.
- c. Do not contact moving parts.
- d. Only use attachments recommended or sold by the manufacturer.
- e. Do not use outdoors.
- f. For a cord-connected appliance, the following shall be included:
 - Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
 - Unplug from outlet when not in use and before servicing or cleaning.
 - Do not operate any appliance with a damaged cord or plug, or after the appliance malfunctions or is dropped or damaged in any manner. Contact the nearest authorized service facility for examination, repair, or electrical or mechanical adjustment.
- g. For a permanently connected appliance Turn the power switch to the off position when the appliance is not in use and before servicing or cleaning.
- h. For an appliance with a replaceable lamp Always unplug before replacing the lamp. Replace the bulb with the same type.
- i. For a grounded appliance Connect to a properly grounded outlet only. See Grounding Instructions.

Drains

OPTION A

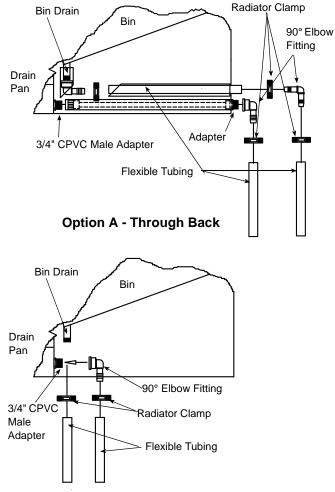
One drain tube fitting is with a 90° bend. This fitting attaches to the bin drain fitting. Underneath the dispenser toward the front of the dispenser is the bin drain. Attach the 90° fitting to the bin drain outlet. Slip the drain tubing over the tubing end of the fitting. Secure the tubing with the hose clamp provided.

The second drain tube fitting is a straight connector. This fitting attached to the drain pan fitting of the dispenser. Attach the fitting to the drain pan. Slip the drain tubing over the tubing end of the fitting. Secure the tubing with the hose clamp provided. Insulate all drain tubes.

OPTION B

One drain tube fitting is with a straight connector. This fitting attaches to the bin drain fitting. Underneath the dispenser toward the front of the dispenser is the bin drain. Attach the straight fitting to the bin drain outlet. Slip the drain tubing over the tubing end of the fitting. Secure the tubing with the hose clamp provided.

The second drain tube fitting is a 90° bend. This fitting attached to the drain pan fitting of the dispenser. Attach the fitting to the drain pan. Slip the drain tubing over the tubing end of the fitting. Secure the tubing with the hose clamp provided. Insulate all drain tubes.



Option B - Through Bottom

Step by Step Installation

GENERAL

M Series dispensers have a stainless steel cabinet and lighted merchandiser standard.

SPECIFICATIONS CHART

	MIN.	МАХ
Ambient	40°F	105°F
Temperature	(4°C)	(41°C)
Electrical	115V/60 Hz/1	230V/50-60 Hz/1

UNIT INSTALLATION

NOTE: The unit must be placed and operated in a horizontal, level position. This unit is not suitable for areas cleaned with a water jet, pressure washers or water hoses.

- 1. Check the equipment location, assure the proper drain and electrical requirements are available before proceeding.
- 2. Carefully remove the dispenser from the shipping carton.
- 3. If the dispenser is to be set on legs, lay the dispenser on its' back. Use the shipping cardboard as a protective interface between the dispenser and the floor. Thread the legs into the leg gussets on the bottom corners of the dispenser. If the dispenser is to be set on a counter without the legs, most local codes require the dispenser to have a silicone seal between the counter and the dispenser.
- 4. Carefully pick up the dispenser, setting it in place.

Important

Be sure the dispenser is stable and level. Place a level on the top of the bin, side to side and front to back to see if the bin is level. If the dispenser has legs, level the dispenser bin by adjusting the dispenser legs. If the dispenser does not have legs, shim between the counter top and the dispenser.

- 5. Remove the splash panel and drain pan from the front of the dispenser. If your dispenser has beverage valves attached, these valves will be attached to the splash panel. Included inside the dispenser from the factory is a length (1.8m [6ft.]) of vinyl tubing. One half of this tubing is to be used for the bin drain, with the other half of the tubing used for the drain pan drain. Attached to the tubing are two tubing adaptors.
- 6. If beverage valves are supplied with your dispenser, connect them to the beverage system at this time according to the information supplied by the beverage supplier.

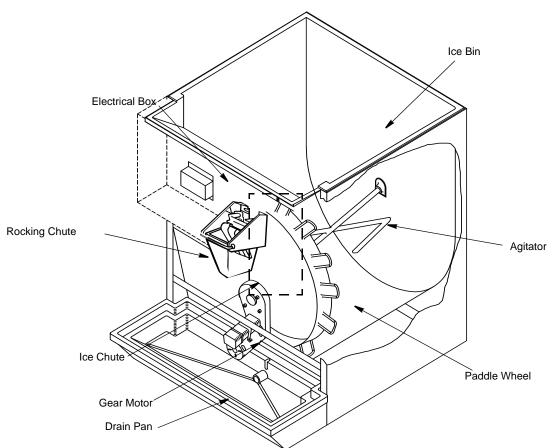
- 7. Route the electric wires under the dispenser and out to the electrical receptacle, but **do not** plug in to receptacle.
- 8. Replace the drain pan to the dispenser. Secure the free ends of the vinyl drain tubing to the drain connections supplied by the owner/operator. Attach the splash panel to the front of the dispenser.
- 9. Fill bin with ice.
- 10. Connect power supply cord and plug into receptacle.

ICE FLOW

The delivery of the ice from the dispenser is influenced by several factors. The primary influence is the type of ice being dispensed. If you are dispensing a wet, rounded corner ice, this ice will dispense at a faster rate than an ice with square corners.

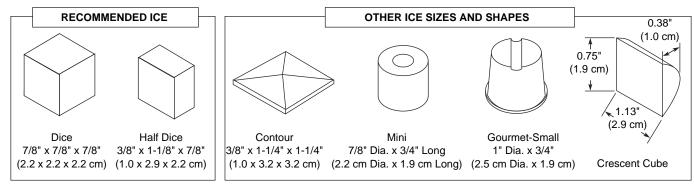
Section 3 Operation

General System Overview



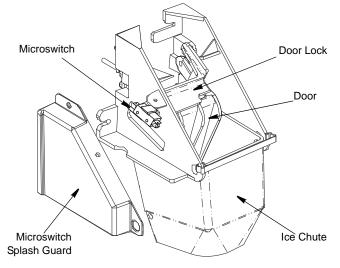
Sequence of Operation

ICE RECOMMENDED FOR DISPENSING



Dispensers are designed to dispense hard, cube ice up to one-inch square. The ice shapes and sizes listed above are recommended for dispensing. Warm "Super Cooled" Ice Before Dispensing: "Super Cooled" ice is not recommended for dispensing. "Super cooled" ice is ice that has been stored in freezers below 32°F. Should it be necessary to temporarily use "super cooled" ice, allow the ice to warm at room temperature for 25 to 30 minutes before placing the ice in the dispenser.

Rocking Chute Ice Dispensing

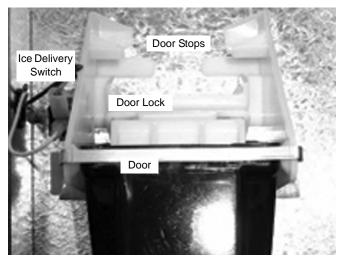


As the customer presses the rocking chute, the arm at the top left rear of the chute pushes upward on the door lock. The door opens until it contacts the stops in the mounting brackets. The plastic arm on the ice chute also activates the lever of the ice dispensing switch. When activated, the micro switch starts the gear motor. The gear motor turns the paddle wheel and agitator bar.

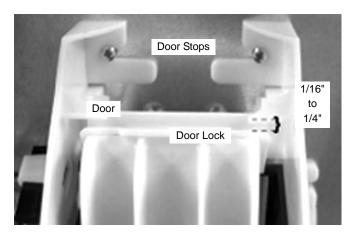
OPERATION CHECKS AND ADJUSTMENTS

Rocking Chute Ice Delivery Switch Adjustment

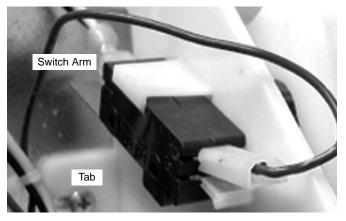
To properly adjust the switch, first unplug the power cord to the unit then remove the merchandiser. This will give you access to the ice delivery switch located on the left side of the rocking chute.



Begin by observing the chute by slowly pushing against the rocking chute. When the ice delivery switch clicks, measure the distance from the door stops on the rocking chute bracket to the door. The distance between the two should be no more than 1/4", but no less than 1/16".



Begin by observing the chute by slowly pushing against the rocking chute. When the ice delivery switch clicks, measure the distance from the door stops on the rocking chute bracket to the door. The distance between the two should be no more than 1/4", but no less than 1/16".



The left side of the rocking chute has a tab that pushes up on the ice delivery switch. To adjust it, use needle nose pliers and bend the arm of the switch up or down in order to change the point where the tab makes contact with the switch arm.

Section 4 Maintenance

Preventive Maintenance

Preventative maintenance is a vital part of keeping your dispenser in top condition. Following the guidelines below will assist you in continued trouble-free operation of your unit.

- 1. Conduct daily maintenance of the machine.
- 2. Perform monthly maintenance of the machine.
- 3. Perform periodic maintenance and sanitizing dispensing system.
- 4. Do not overfill the dispenser bin with ice.
- 5. Do not allow the dispenser to sit for prolonged periods of non use with ice in the bin.
- 6. Most ice dispenser service problems are caused by low usage of the ice dispenser.
- Do not allow ice to remain in the bin more than a day in order to prevent ice from freezing together and/or stagnant ice.

Possible excess ice storage reasons:

- Storage capacity exceeds daily requirements.
- Low demand during the off season.
- Dispenser oversized with future growth in mind.

Lower ice storage to meet one day's needs. If you manually fill ice, fill only with the appropriate amount of ice. Fill the dispenser with fresh ice each morning. Do not fill the dispenser at night just before shut down. Ice cubes can freeze together if not dispensed.

Contact MBE at 1-800-367-4233 for more information about our ProActive Maintenance Program.

Cleaning

DAILY CLEANING

All cleaning must meet your local health department regulations. The following cleaning instructions are provided as a guide.

🕂 Caution

Use only warm soapy water to clean the exterior of the tower. Do not use solvents or other cleaning agents. Do not pour hot coffee into the drain pan. Pouring hot coffee down the drain pan can eventually crack the drain pan, especially if the drain pan is cold or still contains ice.

A Warning

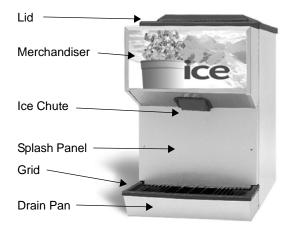
Electric Shock Hazard

Unplug unit before servicing or cleaning.

🛦 Warning

When using cleaning fluids or chemicals, rubber gloves and eye protection should be worn.

To clean the merchandiser, splash panel, and exterior of unit:



- 1. Unplug unit.
- 2. Lift the grid and remove it from the drain pan.
- 3. Using mild soap, warm water and a clean cloth, wipe the drain pan and splash panel. Then, rinse with clean, warm water. Allow plenty of warm (not hot) water to run down the drain of the drain pan, to remove any residue that could clog the drain opening.
- 4. Wash the grid, then rinse with clean water. Place the grid back in the drain pan.
- 5. Wash all exterior surfaces of the unit with warm water and a clean cloth. Wipe again with a clean, dry cloth.
- 6. Clean the underside of the merchandiser with warm, soapy water. Rinse with clean damp towel.
- 7. Plug in the unit when finished.

MONTHLY CLEANING

▲ Caution

Unplug unit before servicing or cleaning ice bin. Ice bin contains parts that can move at any time and will cause injury if hands are in the way.

A Warning

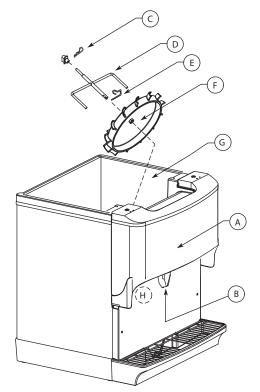
When using cleaning fluids or chemicals, rubber gloves and eye protection must be worn.

Clean and sanitize the ice bin:

- 1. Unplug unit and remove all ice and components from the ice bin.
- 2. Mix a solution of mild detergent to clean the dispenser bin and components.
- 3. Wash the ice bin using a sponge and the mild detergent solution.
- 4. Using the mild detergent solution and a soft bristle brush or clean cloth, clean the following bin and selectable ice components;

Bin components:

- A. Merchandiser
- B. Ice Chute
- C. Rear bushing & pin (Front Serviceable Units)
- D. Agitator
- E. Agitator Pin (Non-Front Serviceable Units)
- F. Paddle wheel
- G. Entire bin
- H. Motor shaft
- Strip lids (where applicable)



- 5. Rinse all the parts in clean, running water.
- 6. Prepare 2 gallons of sanitizing solution by mixing 1/2 ounce of household bleach (that contains 5.25% sodium hypochlorite) with 2 gallons of 120°F water. The mixture should not exceed 100 PPM of chlorine. Or mix a solution of any approved sanitizer, following the directions for mixing and applying the sanitizer.
- 7. Sanitize the ice bin and cold plate with the sanitizing solution for at least 10 seconds.
- 8. Allow to air dry. Do not rinse.
- 9. Re-assemble all bin components once dry and hand tighten all knurled fasteners.
- 10. Pour in fresh, sanitary ice and replace the lid on the top of the dispenser.
- 11. Plug in the unit's electrical cord.
- 12. Check for proper ice dispensing.

Disassembly

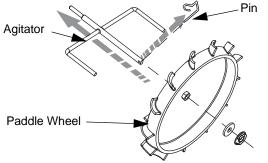
DISASSEMBLY FOR CLEANING AND MAINTENANCE

NOTE: Sanitize the ice dispenser at Initial Start-up in addition to monthly sanitizing. You will need a slotted screwdriver in order to disassemble.

🛦 Warning

Unplug unit before servicing or cleaning. Ice dispenser bin contains moving parts that can move at any time and will cause injury if hands are in the way

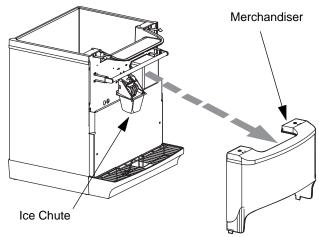
1. These parts will be removed; agitator pin, agitator and paddle wheel.



- a. Rotate the agitator arm so the paddle wheel pin handle is pointing up, toward the ceiling.
- b. Prepare agitator pin for removal by removing the pin from the agitator bar and paddle wheel.
- c. Then remove the paddle wheel pin from the hole in the agitator.
- d. Push the agitator bar toward the back of the unit until the agitator is free of the paddle wheel hub.

DISASSEMBLE THE ROCKING CHUTE

1. Loosen the two knurled fasteners that hold the merchandiser in place.



2. Remove the merchandiser.



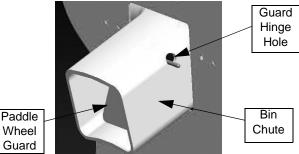
3. Remove outer bracket.



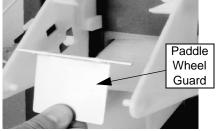
4. Remove door lock.



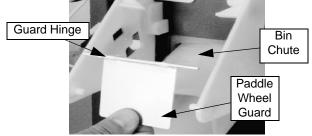
5. Remove door and ice chute.



- 6. To remove the the finger guard reach inside the bin chute, push the paddle wheel guard to one side.
- 7. Gently twist the guard allowing it to flex out of the guard hinge holes on the chute and pull it towards you removing it from the bin chute.



RE-INSTALLING THE PADDLE WHEEL GUARD



1. When re-assembling the rocking chute/door, the paddle wheel guard is inserted into the opening in bin ice chute.



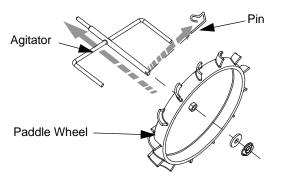
2. The plastic paddle wheel guard will flex in order to fit into the opening until the guard hinge is placed into a hinge hole on the chute.

REMOVAL OF THE GEARMOTOR

These instructions are provided as a guide for the removal of the gear motor.

NOTE: The bin components including the agitator bar must be removed prior to gearmotor removal.

- 1. Disconnect power from the electric receptacle.
- 2. Remove all ice from the ice storage bin of the dispenser.
- 3. Remove the paddle wheel pin from the paddle wheel / agitator assembly inside the dispenser bin.



4. Remove the agitator assembly from the dispenser bin by pushing the agitator to the back of the bin. Angle the front of the agitator to the side. Pull the agitator forward then out of the dispenser.

- 5. Remove the paddle wheel from the dispenser by pulling the hub of the paddle wheel to the back of the bin and off the gear motor shaft.
- 6. Remove the four bolts from the front wall of the dispenser. These bolts mount into the gear motor case.
- 7. Remove the front from the dispenser and expose the gear motor.
- 8. Disconnect the electric connector from the gear motor wire leads.



- 9. Remove the strap from around the gear motor.
- 10. You should be able to remove the gear motor from the dispenser.
- 11. To install a replacement gear motor, reverse this procedure.
- 12. Plug in motor and unit.
- 13. Test unit.

Shipping, Storage and Relocation

🕂 Caution

Before shipping, storing, or relocating this unit, syrup systems must be sanitized. After sanitizing, all liquids (sanitizing solution and water) must be purged from the unit. A freezing environment causes residual sanitizing solution or water remaining inside the unit to freeze, resulting in damage to internal components.

Section 5 Before Calling for Service

Checklist

If a problem arises during operation of your dispenser, follow the checklist below before calling service. Routine adjustments and maintenance procedures are not covered by the warranty.

nections.
ntil unit will
otor. necessary.
ism or
clockwise to
nually filling
te water
te large
ny ice is
or, when sters.
oper

THIS PAGE INTENTIONALLY LEFT BLANK



© 2008 Manitowoc Continuing product improvements may necessitate change of specifications without notice. Part Number 020002392 04/09



Manitowoc Beverage Equipment 2100 Future Drive Sellersburg, IN 47172, USA Ph: 812-246-7000 Fax: 812-246-7024 Visit us online at: www.manitowocfsg.com

