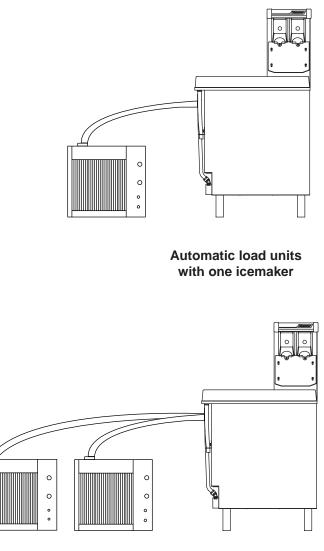
# MU155N Series - 120V 60Hz **Ice and Water Dispensers**

Installation, Operation and Service Manual



Automatic load units with two icemakers

Following installation, please forward this manual to the appropriate operations person.



801 Church Lane • PO Box D, Easton, PA 18044 Cool Ideas For Ice Management (610) 252-7301 • FAX (610) 250-0696 • www.follettice.com



# **Table of contents**

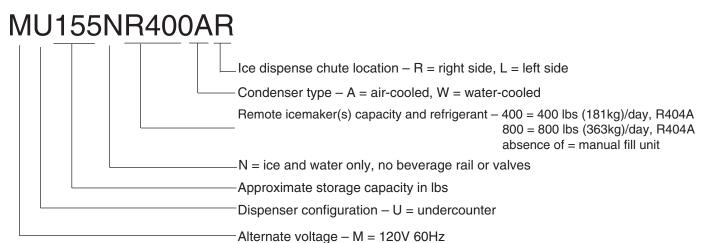
| Welcome to Follett                  |
|-------------------------------------|
| Before you begin                    |
| Specifications                      |
| Electrical requirements             |
| Plumbing and clearance requirements |
| Field wiring diagrams               |
| Installation procedures             |
| Installing dispenser in counter     |
| Installing remote icemaker          |
| Start-up                            |
| User Information                    |
| Cleaning Procedures                 |
| Disassembly for cleaning            |
| Service information                 |
| Disassembly for service             |
| Wiring diagrams                     |
| Dispenser troubleshooting guide     |
| Replacement parts                   |
| Dispenser exterior                  |
| Dispense assembly                   |
| Hopper                              |
| Auger motor                         |
| Electrical components               |

# Welcome to Follett

Follett ice and water dispensers enjoy a well-deserved reputation for excellent performance, long-term reliability and outstanding after-the-sale support. To ensure that this dispenser delivers that same degree of service, we ask that you take a moment to review this manual before beginning the installation of the dispenser. Should you have any questions or require technical help at any point, please call our technical service group at (610) 252-7301.

### Before you begin

- After uncrating and removing all packing material, inspect the equipment for concealed shipping damage. If damage is found, notify the shipper immediately and contact Follett Corporation so that we can help in the filing of a claim, if necessary.
- Check your paperwork to determine which model you have. Follett model numbers are designed to provide information about the type and capacity of Follett ice dispensing equipment. Following is an explanation of the different model numbers in the U155 series.





# Important cautions

- Storage area of dispenser contains mechanical, moving parts. Keep hands and arms clear of this area at all times. If access to this area is required, power to unit must be disconnected first.
- Follett manual load dispensers can accommodate most cube/cubelet ices up to 26mm x 26mm , or Follett compressed nugget ice. Crushed, flake, bagged, nugget or congealed ice cannot be used. Use of these ices can jam dispenser and void warranty. Separate any "waffle-like" sections of cubes before adding to dispenser. For ice compatibility questions, please call Follett customer service at (610) 252-7301.
- Follett recommends use of an activated carbon filter for units equipped with icemakers.
- Ice is slippery. Maintain counters and floors around dispenser in a clean and ice-free condition.
- Ice is food. Follow recommended cleaning instructions to maintain cleanliness of delivered ice.

# **Specifications**

#### **Electrical requirements**

Each icemaker and dispenser requires separate circuit with electrical disconnect within 6m. Equipment ground required. Standard electrical - 120V, 60Hz.

| Model         | lcemaker         | Dispenser |
|---------------|------------------|-----------|
| number        | amperage         | amperage  |
| MU155NR400A/W | 11.0 amps        | 4.0 amps  |
| MU155NR800A/W | 11.0 amps ea (2) | 4.0 amps  |

### Plumbing

**Dispenser** 3/4" PVC slip joint for hopper drain 3/4" PVC pipe nipple for beverage drain pan 3/8 ID red line tubing for water in

**Note:** Drains should be hard-piped and insulated. Maintain at least 6mm per 304mm run slope on drain line run

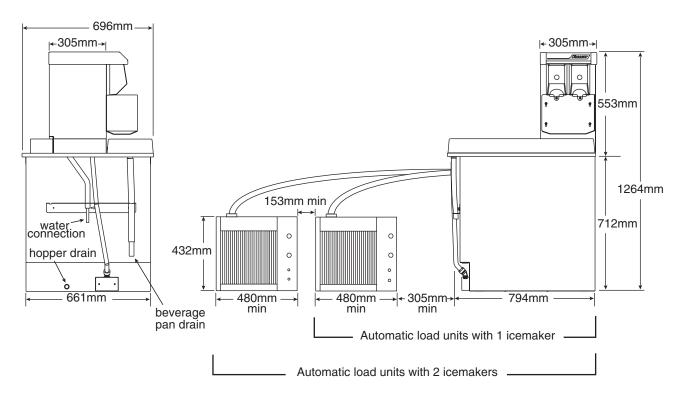
**Icemaker** Refer to Icemaker Installation Manual packed with icemaker for installation instructions

#### **Clearance and access information**

- 1296mm above counter
- 305mm on side opposite tower, below counter
- Counter front or rear panel must be removable for service access to both sides of dispenser and icemaker(s), if any
- · Below counter access to drain clean-out required on utility side of dispenser
- See Icemaker Installation Manual packed with icemaker(s) for clearance requirements for automatic load dispensers

Side view

Front view



### Field wiring:

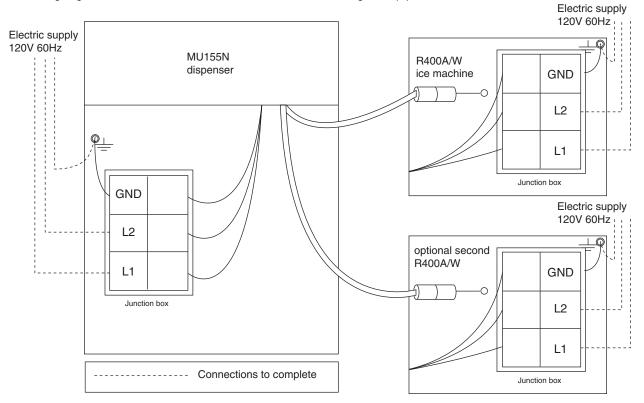
| Model         | Electrical connection      | Circuits required                |
|---------------|----------------------------|----------------------------------|
| MU155NR400A/W | icemaker and dispenser:    | 120V 60Hz, (2) circuits required |
|               | hard-wiring: Cord and plug |                                  |
|               | connection provided for    |                                  |
|               | bin signal                 |                                  |
| MU155NR800A/W | icemaker(s) and dispenser: | 120V 60Hz, (3) circuits required |
|               | hard-wiring: Cord and plug |                                  |
|               | connection provided for    |                                  |
|               | bin signal                 |                                  |

## Field wiring diagrams

#### Automatic load units

IMPORTANT

Field wiring diagram is intended to aid electrician or technician in understanding how equipment works.



# Installation

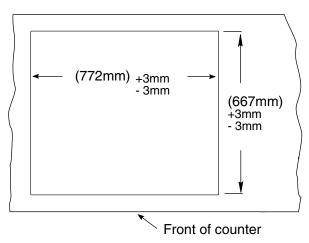
### Installing MU155N dispenser in counter

All MU155N dispensers must be installed level in both directions and supported from below with 153 – 229mm adjustable legs provided, or channels installed on site. DO NOT hang dispenser on flange of counter.

- 1. Check that dispenser location meets all requirements in this manual and cut counter as shown.
- 2. Block up area below counter cut-out to support dispenser when lowered into place.
- For automatic load dispensers, disconnect ice transport tube from bracket in storage area of dispenser. (Since this tube must be reinstalled in bracket after dispenser is dropped into counter, note how tube is held by bracket tabs before disconnecting.)
- 4. Carefully lower dispenser into counter until it rests on support blocks.
- 5. Adjust height from below with standard leg kit until dispenser flange rests flush with counter.
- 6. Apply a bead of NSF listed silicone sealant (Dow Corning RTV-732 or equivalent) approximately 6mm in diameter around perimeter of dispenser where it meets counter and smooth sealant to a 4mm radius.
- 7. Install a hard drain line, maintaining at least a 6mm per 304mm run slope, and insulate line to prevent condensation.

PVC pipe is suggested. Care must be taken in sweating any metal drain pipe used. Excessive heat applied while sweating metal pipe may melt plastic fitting on dispenser.

8. Make electrical connections in accordance with applicable wiring diagrams provided, as well as NEC and local codes. Provide disconnects within 3m of dispenser and icemaker for servicing.



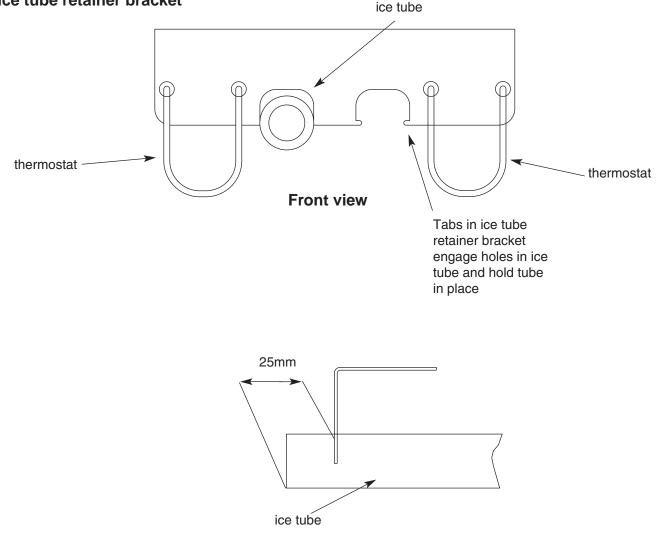
#### Counter cut-out

#### Installing remote icemaker (automatic load units only)

Correct installation of remote icemaker(s) is critical to proper performance of icemaker and dispenser.
 Check to make sure bin signal on icemaker control board is switched to 24 volt connection.
 Refer to installation manual packed with icemaker for important details on ice transport tube run, ventilation requirements and other installation requirements. *Failure to comply with instructions will void warranty.*

- 1. Position icemaker in desired location.
- 2. Push one end of ice transport tube(s) through hole(s) provided in side of dispenser.
- 3. Route tube into ice tube bracket inside dispenser and engage bracket tabs in holes located in end of ice transport tube(s). (See drawings below.)
- 4. Proceed with ice transport tube installation from dispenser to icemaker in compliance with instructions contained in icemaker installation manual packed with icemaker.

#### Ice tube retainer bracket



#### Side view

### To start up and operate dispenser

- 1. Follow detailed cleaning instructions in service manual before operating dispenser.
- 2. For manual load units, remove front drain pan or rear lid and fill storage area with compatible ice.

Follett manual load dispensers can accommodate most cube/cubelet ices up to 26mm square and Follett compressed nugget ice. Crushed, flake, nugget, bagged or congealed ice cannot be used. Use of these ices can jam dispenser and void warranty. Separate any "waffle-like" sections of cubes before adding to dispenser. For questions about ice compatibility, call Follett's customer service group at (610) 252-7301.

- 3. Turn power switch located on control box to ON position.
- 4. For automatic fill units, follow detailed instructions in icemaker installation section of installation manual, then turn icemaker (bin signal) switch(es) located on control box to ON position and begin to make ice.
- When dispenser has at least 153mm of ice in storage area, press "PUSH FOR ICE" lever or button to ensure that dispenser is operating properly. Note: If additional start-up information is needed, call Follett Corporation at (610) 252-7301.

# **User information**

#### How the dispenser works

Follett's MU155N series ice and water dispensers are available in manual load configurations (using ice from another source) or automatic load configurations, fed from one or two Follett 400 lb (181kg)/day remote icemakers.

In all models, ice is stored below the counter in the dispenser storage area. When the dispense lever or button is pushed, the dispense motor is activated. This causes the wheel assembly in the storage area to turn, moving ice to the vertical auger assembly, which carries ice up to the dispense chute where it drops by gravity into the container.

In automatic load units, ice is manufactured in either one or two Follett remote icemakers. These icemakers may be located up to 6m away from the dispenser. As water freezes to the inside walls of the icemaker evaporator, a rotating stainless steel auger removes ice and carries it to the top of the evaporator assembly where it is compressed and extruded through an outlet port. The extruded ice is then pushed through the tube to the storage compartment of the dispenser. A level fill circuit maximizes fill in the storage area by rotating the wheel at intervals until the bin is completely filled. When the bin is filled, a bin stat shuts the icemaker off to avoid overfilling of the bin. The icemaker will restart after 20 minutes if the bin is calling for ice.

# **Cleaning and sanitizing procedures**



Warning: Always disconnect power before cleaning dispenser.

Using solutions below, clean and sanitize storage area and beverage lines before starting up unit and on a routine basis as noted below.

- Solution A: Prepare a cleaning solution (200 ppm of available chlorine content) of Ecolab Mikro-chlor Cleaner or equal chlorinated detergent. Cleaning solution temperature must be at 75° – 125°F (24° to 52°C).
- Solution B: Prepare a sanitizing solution (50 ppm of available chlorine content) of Ecolab Mikro-chlor Cleaner or equal chlorinated detergent. Sanitizing solution temperature must be at 75° – 125°F (24° to 52°C).

#### Cleaning bin before use

- 1. Wipe storage area with Solution A.
- 2. Rinse thoroughly with clear, potable water.
- 3. Wipe with Solution B to sanitize.

### Periodic cleaning of dispenser

#### Recommended daily cleaning of drain pan

DO NOT run plastic parts (drain pan, dispense chute cover, dispense wheel) through a dishwasher.

- 1. Remove all debris from drain pan.
- 2. Pour 1 gallon (4L) hot water into drain pan to keep drain lines clear.

#### Recommended weekly cleaning

- 1. Remove drain pan and grille and wash with Solution A. Rinse thoroughly.
- 2. Pour a solution of one cup (8oz/237ml) household bleach mixed with one gallon (3.8L) hot water into drain pan to help prevent algae growth in drain lines.

### Recommended quarterly cleaning (every 3 months)

On push-button units, remove dispense switch from dispense chute cover before cleaning chute cover.

- 1. Turn power switch to OFF position and remove top from dispenser.
- 2. Remove ice from storage area.
- 3. Remove dispense chute cover, chute, auger motor assembly, auger and auger tube (page 10).
- 4. Remove drain pan, grille, dispense wheel and cover plate (page 11).
- 5. Clean all components and bin storage area with Solution A, rinse thoroughly with clear water and sanitize with Solution B.
- 6. Remove clean-out plug from drain line tee on side opposite dispense tower and let bath drain.
- 7. Use a bottle brush to clean coil with Solution A, then rinse and sanitize with Solution B.
- 8. Reinstall clean-out plug in drain line tee.
- 9. Pour potable water into bath to submerge coil.

#### Putting unit back in service after quarterly cleaning

- 1. Reassemble components.
- 2. For manual load units, fill unit with an approved ice (see caution statement on page 1).
- 3. For automatic load units with R400A/W (R404A refrigerant) icemakers, turn bin signal switch(es) and dispenser power switch to ON position and allow storage area to fill.
- 4. Push dispense button or lever to test that dispenser is functioning properly.

### Quarterly cleaning of icemaker system

Units equipped with icemakers require cleaning of icemaker system at least every three months, and more often if local water conditions dictate. Failure to clean icemaker system will result in decreased performance and potential damage to icemaker. Refer to Icemaker Operation and Service Manual.

# Disassembly instructions for periodic cleaning

### Dispense chute cover removal

- 1. Remove top cover.
- 2. Push chute cover up vertically to slip off holding tab.
- 3. After clearing tab, pull chute cover forward to remove.

#### **Dispense mechanism assembly** removal

1. Remove top cover.

(Fig. 3)

2. Remove chute cover (see above).

Auger and auger tube removal

2. Pull auger upward to clear auger tube. 3. Lift auger tube upward to clear dispenser top. 4. Slide tube and bearing plate through auger

- 3. Remove auger motor assembly (see above).
- 4. Remove quick release pins from the ice chutes and gates, then unplug wires from solenoids.
- 5. Lift dispense mechanism up and off auger tube.

1. Remove auger motor and dispense mechanism

# right-hand unit top cover (Recurrent)

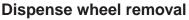
Front view

Fig. 2

drain pan

assembly

#### Dispense assembly, top view right-hand unit



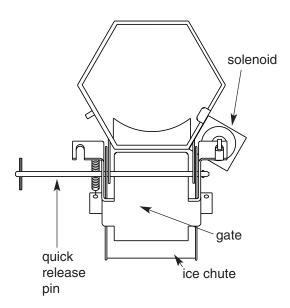
assembly (see above).

tube gasket.

- 1. Remove drain pan assembly and bin access cover.
- 2. Remove center thumbnut and threaded rod on dispense wheel assembly and lift wheel out front access opening.

#### Auger motor assembly removal

- 1. Remove top cover.
- 2. Remove one thumbnut on rear of motor bracket.
- 3. Lift motor bracket up and unplug electric quick disconnects.
- 4. Remove motor assembly.



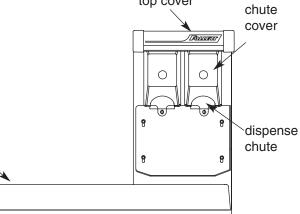


Fig. 1

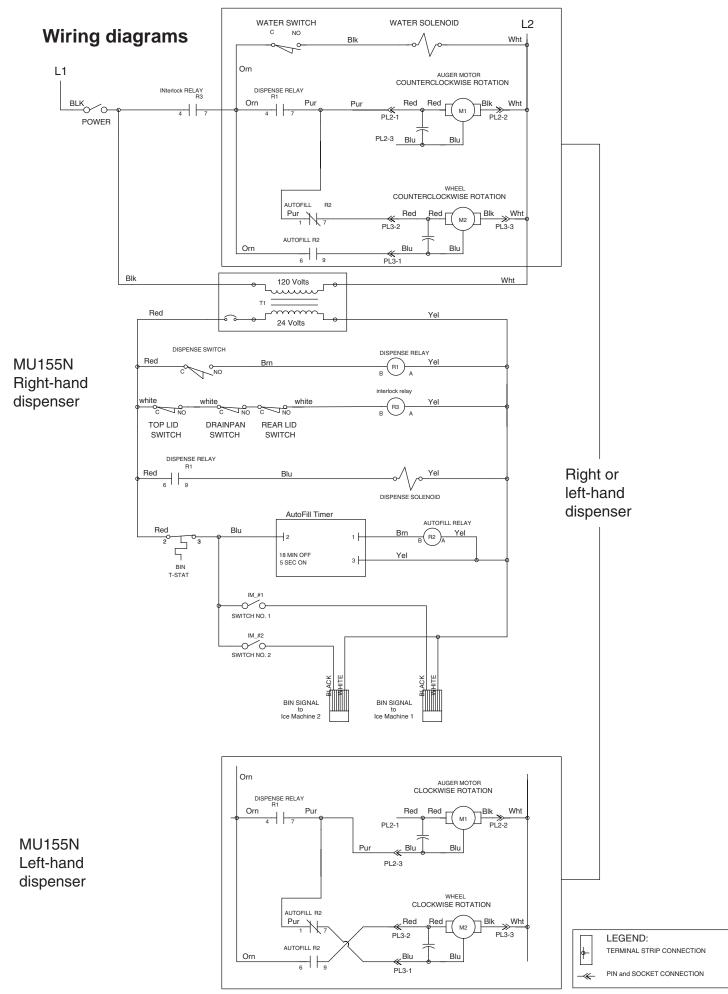
side view front view auger - C dispense wheel auger tube auger motor (side view) stationary agitator rotating agitator wheel motor auger bearing plate baffle plate wheel motor THE C mounting plate

# Service

# Disassembly instructions for service requirements only – NOT required for any cleaning procedure

#### Dispense wheel motor removal (Fig. 3)

- 1. Remove drain pan, bin access cover and dispense wheel.
- 2. Remove stainless steel baffle plate under dispense wheel.
- 3. Remove two screws holding wheel motor bracket on bin.
- 4. Lift plate and motor up.
- 5. Unplug electric quick disconnects from motor.
- 6. Lift motor and mounting plate out front access opening.



### Before calling for service

- 1. Check that there is ice in dispenser and that congealed cubes are not causing a jam.
- 2. Check that circuit breaker and switches are in ON position.
- 3. Check that drain pan, rear lid and top are on securely. If ajar, dispenser will not operate. When the top is off, auger does not operate, even though the solenoids do.
- Check that all drains are clear.
   Note: For units equipped with Follett compressed nugget icemaker, see Icemaker Operation and Service Manual for service and troubleshooting information.

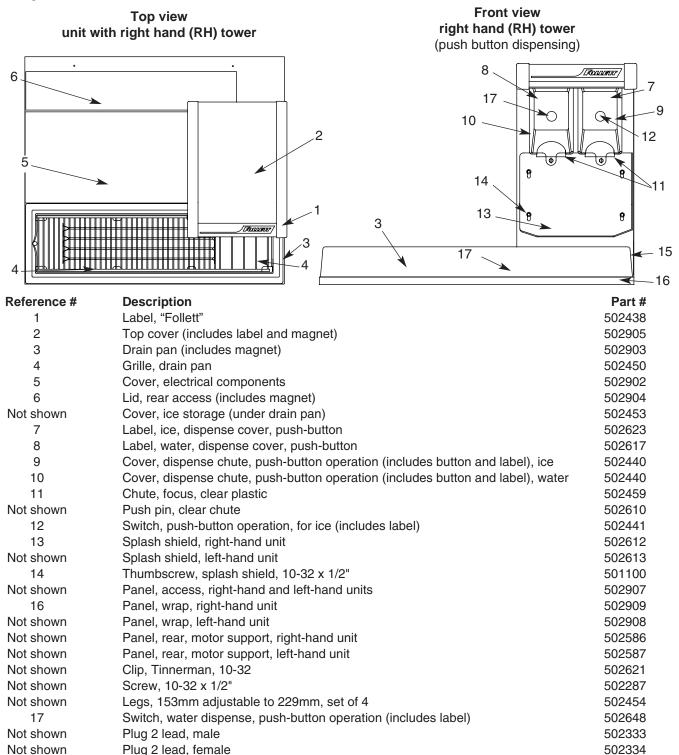
## Dispenser troubleshooting guide

| Symptom  | Possible cause   | Solution  |
|--|--|---|
| Ice does not dispense.<br>• Auger motor does not run<br>• Wheel motor does not run         | <ol> <li>Power switch faulty or in OFF<br/>position; loose connection.</li> <li>Faulty dispense switch.</li> <li>Faulty transformer.</li> <li>Drain pan ajar.</li> <li>Faulty drain pan safety switch.</li> </ol>  | <ol> <li>Turn power switch to ON position;<br/>check connections.</li> <li>Replace switch.</li> <li>Replace transformer.</li> <li>Check pan and reseat.</li> <li>Replace switch.</li> </ol>   |
| Ice does not dispense.<br>• Auger motor runs<br>• Wheel motor runs<br>• Gate does not open | <ol> <li>Loose electrical connection.</li> <li>Linkage problem between<br/>solenoid and gate.</li> <li>Faulty solenoid.</li> </ol>   | <ol> <li>Check connections.</li> <li>Check linkage.</li> <li>Replace solenoid.</li> </ol>   |
| Ice does not dispense.<br>• Auger motor does not run<br>• Wheel motor runs                 | <ol> <li>Loose electrical connection.</li> <li>Faulty auger motor.</li> <li>Faulty run capacitor.</li> </ol>   | <ol> <li>Check connections.</li> <li>Check auger motor.</li> <li>Check run capacitor.</li> </ol>  |
| Ice does not dispense.<br>• Auger motor runs<br>• Wheel motor does not run                 | <ol> <li>Loose electrical connection.</li> <li>Faulty wheel motor.</li> <li>Faulty run capacitor.</li> </ol>   | <ol> <li>Check connections.</li> <li>Check wheel motor.</li> <li>Check capacitor.</li> </ol>  |
| No ice in dispenser.   | <ol> <li>Power switch in OFF position or<br/>faulty.</li> <li>Bin signal switches in OFF<br/>position or faulty.</li> <li>Faulty bin thermostat.</li> <li>Faulty transformer.</li> <li>Icemaker related problem.</li> <li>Faulty run capacitor.</li> </ol> | <ol> <li>Check switch and replace if<br/>necessary.</li> <li>Check switch and replace if<br/>necessary.</li> <li>Replace bin thermostat.</li> <li>Replace transformer.</li> <li>Refer to icemaker Operation and<br/>Service Manual for diagnosing.</li> <li>Check for power and bin signal on<br/>icemaker PC board.</li> </ol> |

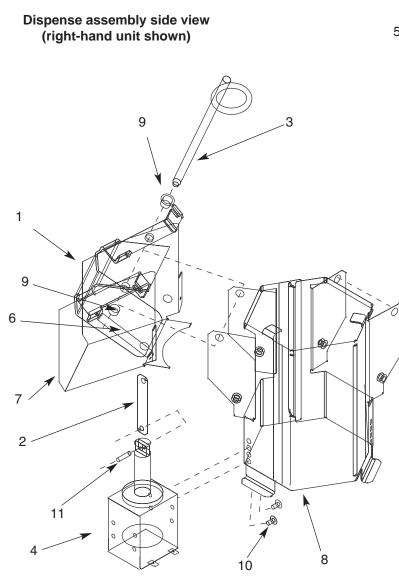
# If problems persist after following this basic troubleshooting guide, call Follett's technical service group at (610) 252-7301.

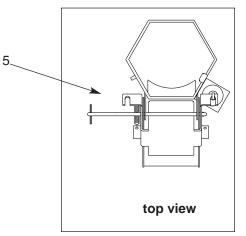
# **Replacement parts**

#### **Dispenser exterior**



# Dispense assembly - side view





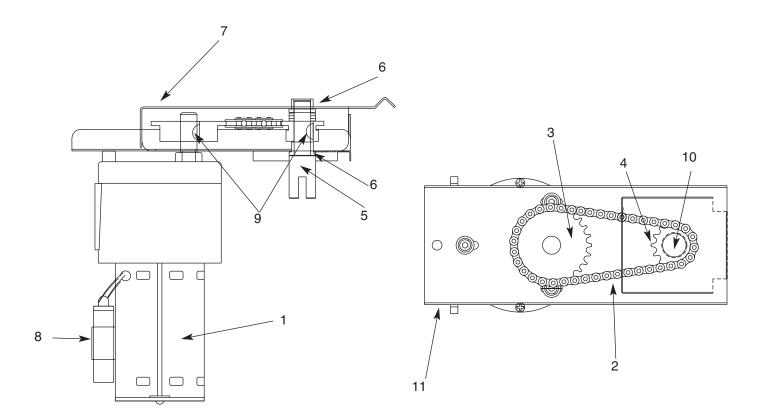
|             | 10   |        |
|-------------|--|--------|
| Reference # | Description                                  | Part # |
| 1           | Gate, dispense                               | 502455 |
| 2           | Linkage pin, gate/solenoid                   | 502456 |
| 3           | Pin, quick release, 141mm, dispense gate     | 502102 |
| 4           | Solenoid (includes linkage pin)              | 501961 |
| 5           | Dispense mechanism assembly, right-hand unit | 502458 |
| Not shown   | Dispense mechanism assembly, left-hand unit  | 502496 |
| 6           | Spring, dispense mechanism (1 per side)      | 501950 |
| 7           | Chute, ice                                   | 502457 |
| 8           | Wrap, dispense mechanism                     | 502607 |
| 9           | Bushing, Ni liners                           | 501249 |
| 10          | Screw, 8-32 x 5/16                           | 502625 |
| 11          | Pin, spring                                  | 502624 |

| 5  |  | 7<br>9<br>3<br>4<br>4<br>5<br>6<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10  |
|--|--|--|
| Reference #<br>1<br>Not shown<br>2<br>Not shown<br>Not shown<br>3<br>4<br>Not shown<br>5<br>6<br>Not shown<br>Not shown | Description<br>Auger, LH unit (black, stamped with "1")<br>Auger, RH unit (gray, stamped with "2")<br>Plate, auger bearing<br>Tube, auger, right-hand unit<br>Tube, auger, left-hand unit<br>Wheel, dispense (includes stud and rotating agitator)<br>Baffle (under dispense wheel)<br>Drive bar (under dispense wheel)<br>Drive bar (under dispense wheel)<br>Motor, vertical auger<br>Motor, vertical auger<br>Motor, wheel<br>Seal, wheel motor<br>Spacer, wheel motor<br>Capacitor, wheel motor<br>Capacitor, rotating, 534mm long<br>Plate, wheel motor mounting<br>Agitator, stationery<br>Bracket, ice tube, double tube<br>Ice transport tube (sold by the foot)<br>Ice transport tube, 10 ft<br>Ice transport tube, 20 ft<br>Insulation, transport tube (sold by the foot)<br>Coil, plain water<br>Tubing, water (sold by the foot)<br>Cover, blank ice entry<br>Gasket, ice entry<br>Plate, ice entry, 2 holes | Part # $502491$ $502492$ $501696$ $502487$ $502487$ $502488$ $501681$ $501684$ $501682$ $502476$ $502560$ $501333$ $501768$ $501782$ $502484$ $502615$ $502490$ $502497$ $500366$ $502522$ $502523$ $501176$ $502461$ $502356$ $502674$ $502673$ |

# Auger motor

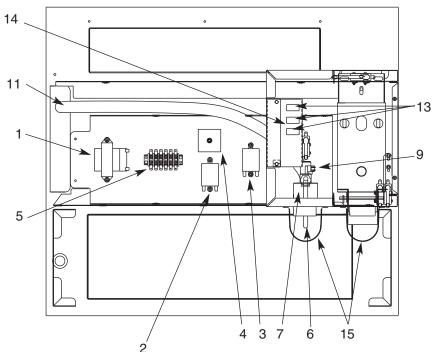
side view

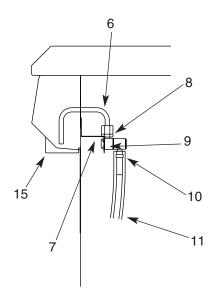
top view



| Description   | Part #  |
|---|---|
| Auger motor/drive assembly, vertical (includes all items below) | 502953  |
| Motor, vertical auger (includes gearbox and capacitor)          | 502476  |
| Chain, auger drive #35, 40p                                     | 502477  |
| Sprocket 35#, 22T 5/8 bore                                      | 502478  |
| Sprocket 35#, 12T 5/8 bore                                      | 502479  |
| Drive shaft   | 502480  |
| Bearing, auger, upper and lower                                 | 501314  |
| Cover and bearing, chain drive (includes 501314)                | 502912  |
| Capacitor, 25mf, 270V   | 501550  |
| Key, Woodruff   | 502482  |
| Washers, thrust (4)   | 501765  |
| Mounting plate, auger motor (includes 501314)                   | 502913  |
|   | Auger motor/drive assembly, vertical (includes all items below)<br>Motor, vertical auger (includes gearbox and capacitor)<br>Chain, auger drive #35, 40p<br>Sprocket 35#, 22T 5/8 bore<br>Sprocket 35#, 12T 5/8 bore<br>Drive shaft<br>Bearing, auger, upper and lower<br>Cover and bearing, chain drive (includes 501314)<br>Capacitor, 25mf, 270V<br>Key, Woodruff<br>Washers, thrust (4) |

# **Electrical components**





|             | 2   |        |
|-------------|---|--------|
| Reference # | Description                                       | Part # |
| 1           | Transformer, 24V                                  | 502058 |
| 2           | Relay, dispense                                   | 501826 |
| 3           | Relay, auto fill                                  | 501826 |
| 4           | Timer, auto fill (automatic fill units)           | 502471 |
| 5           | Strip, terminal                                   | 502472 |
| 6           | Tube, water dispense, stainless steel             | 502356 |
| 7           | Bracket, water solenoid                           | 502611 |
| 8           | Fitting, outlet, 1/8" MPT x 3/8", compression     | 502562 |
| 9           | Valve, solenoid, water                            | 502243 |
| 10          | Fitting, inlet, plastic, 1/4" barb                | 502637 |
| 11          | Tubing, water (sold by the foot)                  | 502356 |
| 13          | Switches (power and icemaker)                     | 502209 |
| 14          | Bracket, switch mounting, RH (power and icemaker) | 502914 |
| Not shown   | Bracket, switch mounting, LH (power and icemaker) | 502906 |
| 15          | Chute, focus, clear plastic                       | 502459 |
| Not shown   | Thermostat, bin level                             | 501432 |
| Not shown   | Magnetic switch                                   | 502887 |
|             | (1) one located under top cover                   |        |
|             | (2) two located under electrical component cover  |        |
| Not shown   | Magnets   | 502888 |
|             | (2) two located on drain pan                      |        |
|             | (1) one located on top cover                      |        |
|             | (1) one located on rear cover                     |        |



Cool Ideas For Ice Management801 Church Lane • PO Box D, Easton, PA 18044(610) 252-7301 • FAX (610) 250-0696 • www.follettice.com

