Manitowoc

CTA260B — CSA261B
CTA200 — CSA201
SERIES ICE DISPENSERS
INSTALLATION/OWNER'S/SERVICE MANUAL



MANITOWOC EQUIPMENT WORKS
Division of The Manitowoc Company, Inc.
2110 South 26th Street, P.O. Box 1720, Manitowoc, WI 54221-1720 • Phone: 414-682-0161
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80-0353-3
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FREIGHT DAMAGE AND LOSS INFORMATION

A. SHORTAGES

1. Check that the number of cartons delivered matches the quantity shown on your receipt.
2. If the quantities do not tally, have the driver note the shortage and file your claim accordingly.

B. NO-FAULT FREIGHT CLAIM PROGRAM

Manitowoc assumes responsibility for all freight damage claims involving participating carriers, except when:

1. The trucking company loses the equipment.
2. Fire destroys the equipment enroute.
3. A traffic accident damages the shipment enroute.

C. VISIBLE DAMAGE

1. Open all damaged cartons and inspect their contents.
2. To remove the carton, cut the bottom banding and slide the carton up and off the unit.
3. Note the location and extent of the damage.
4. Notify your distributor to inspect the merchandise within 15 days of delivery.

D. CONCEALED DAMAGE

1. If damage is noticed after the equipment is unpacked, notify the distributor immediately and ask for an inspection.
2. Save the packing materials until inspection is complete.
3. Unless these conditions are met, your claim will probably be rejected by the distributor.

E. CLAIMS

Satisfaction is between Manitowoc and its distributor to:

1. Arrange to have repairs made, or
2. Replace the merchandise.

MODEL NUMBER DESCRIPTION

C*+260#-

C = Countertop Dispenser

* = Denotes the style of dispense actuator
  T — For self-serve or two-hand operation (see Fig. 1)
  S — For glass actuated one-hand operation (see Fig. 1)

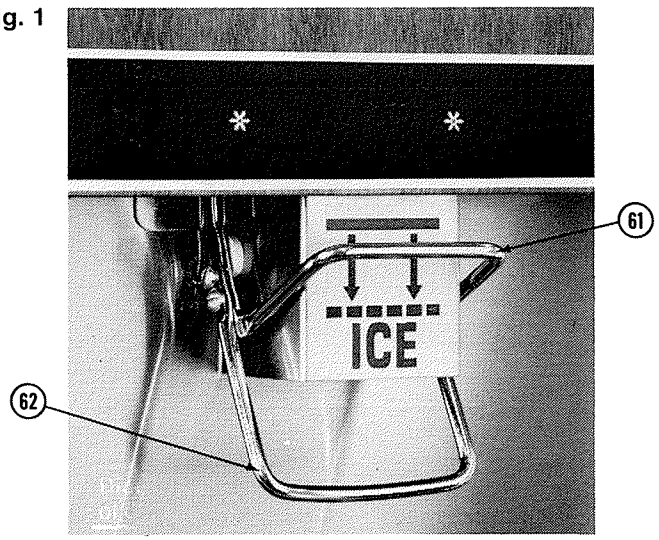
+ = Model vintage starting with letter A
  To change with any major design changes

260 and 261 = Model number

= Model variations — Customer options starts with B

- = Cabinet finish
  S — Stainless Steel
  Fawn

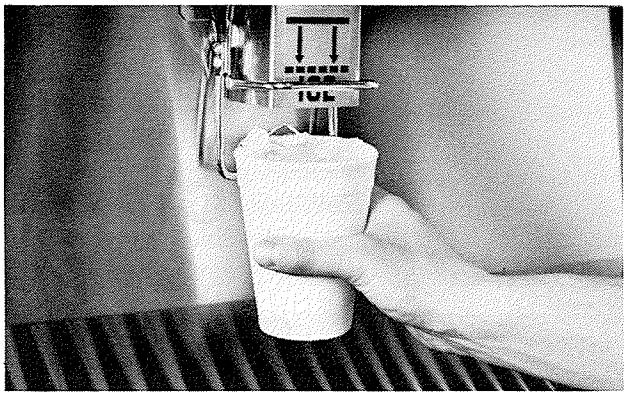
Fig. 1



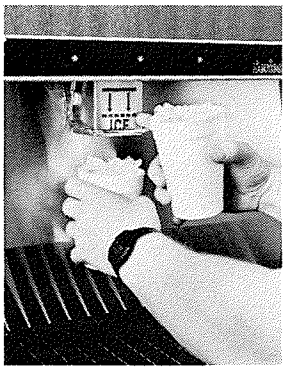
61. Dispense Actuator Arm — Two-hand/CTA260
62. Dispense Actuator Arm — One-hand/CSA261

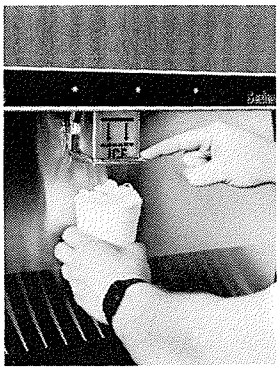
This dispenser has a dual purpose actuating lever.

One-hand Operation



Two-hand Operation





For the easiest two-hand operation, remove the one-hand lever. This is accomplished by removing the four screws which secure the one-hand actuating lever to the two-hand actuating lever.

DISPENSER INSTALLATION

We strongly recommend that the installation and "start and inspect procedure" be performed by a trained and competent technician.

GENERAL

This countertop dispenser dispenses either Manitowoc "dice" or "half dice" size ice cubes.

This dispenser may be manually filled with ice or accept a top mounted single Manitowoc Series 200, 400, or 600 model ice machine for automatic fill capability.

There is a 10½" clearance height between the discharge chute and grill. The clearance height reduces to 8¼" when drink-dispensing valves are installed.

This dispenser accepts up to eight NSF approved or listed drink-dispensing valves. A front panel for mounting these valves can be obtained by supplying Manitowoc with a pattern of the hole requirement for your valve or, preferably, a sample valve. This should be submitted to Manitowoc through the Sales Department.

This dispenser also accepts a mechanical water valve which is sold separately as a field installed kit.

LOCATION

This dispenser is not designed for outdoor installations or installations where temperatures drop below +40°F or rise above +110°F. For best performance, select a location away from radiators, ovens, refrigeration condensers, direct sunlight and other sources of heat. Allow a minimum of five inches clearance around the dispenser for air circulation.

The dispenser must be located on a flat and level countertop of sufficient strength to support the dispenser with ice (400 lbs.) and the Manitowoc ice machine (200 lbs.). The dis-

penser should be sealed to the counter to comply with health codes. (Dispenser set on counter and a minimum of ⅛" radius fillet formed between countertop and dispenser base with NSF approved silicone sealer.) The dispenser is equipped to accept legs (sold separately), but the counter must be able to support the weight concentrated on the legs. Manitowoc recommends that the ⅝" diameter x 11-thread-per-inch weld nuts located at the corners of the dispenser base be used to bolt the dispenser to the countertop to insure stability. Whenever an ice machine is mounted on the dispenser, the dispenser **must** be bolted to the counter.

WATER AND DRAIN REQUIREMENTS AND CONNECTIONS

This dispenser is equipped with a ½" pipe female fitting at the rear for drain connection. If a water valve kit is installed, we recommend including a shut-off valve in the water inlet line (see Fig. 2). All water and drain lines must be covered with insulation to prevent condensation.

Drain connections must not allow waste water to back up into the storage bin. The drain lines must be vented to atmosphere and should run separately from the dispenser and ice machine (when used) to an open trapped or vented floor drain. Drain lines must have 1½" drop per five feet of run.

All plumbing must meet national and local code specifications.

ELECTRICAL REQUIREMENTS AND CONNECTIONS

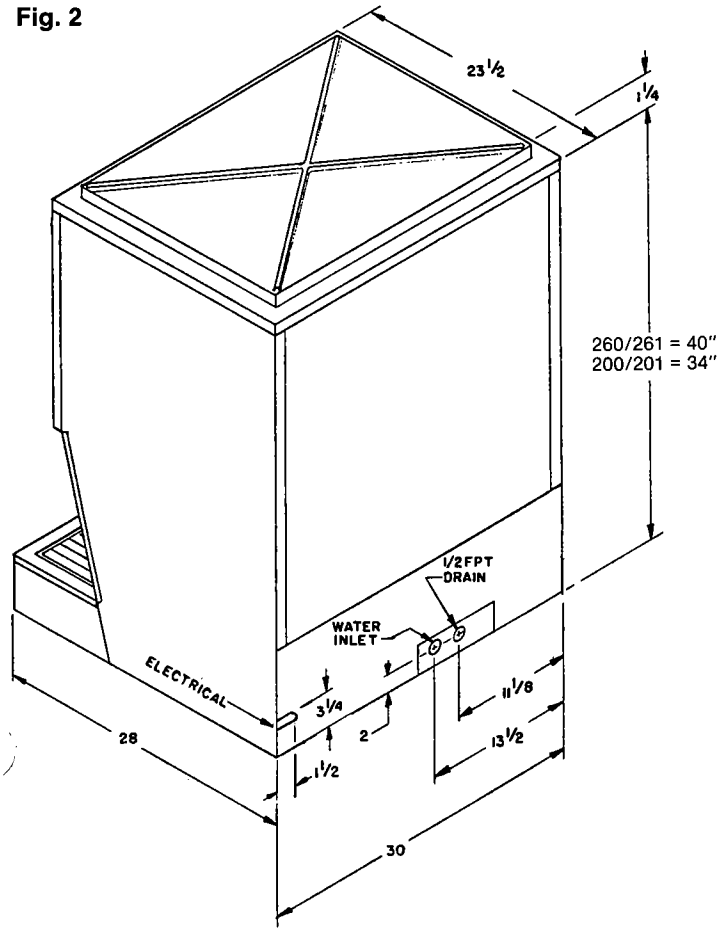
This dispenser is 115-volt, 60-cycle, 1-phase, cord-connected*.

This dispenser must be plugged into a 15 amp electrical outlet.

CAUTION: This dispenser must never be plugged into an extension cord. *If an outlet is not within reach of the dispenser's power cord, have an electrician install a 15 amp outlet.*

*Also available for 230-volt, 50 Hz.

Fig. 2



ICE MACHINE INSTALLATION (Automatic Fill)

1. See Ice Machine Use and Care Manual for ice machine installation.
2. The dispenser's plastic top cover can be discarded or saved. It is not needed when an ice machine is top mounted to the dispenser.
3. Inside the shipping envelope you will find two flat mounting plates to secure the ice machine to the dispenser. Fasten the plates to the lower mounting screw on the **ice machine** back panel. Then, using the plate as a locator, drill two holes (5/32" diameter) into the **dispenser** back panel and fasten the plates to the dispenser using the screws provided in the envelope (see Fig. 3).
4. If local codes require this dispenser to be permanently wired:
   - A. Disconnect power supply cord from any electrical service before working on dispenser.
   - B. Remove rear access panel.
   - C. To remove original power cord from dispenser, knock out strain relief from inside out (may use pliers to squeeze together).
   - D. Proceed to front of dispenser.
   - E. Remove front panel of dispenser to gain access to control box and remove control box cover.
   - F. Disconnect wire nuts from power supply cord.
   - G. Remove strain relief from control box holding power cord.
   - H. From back of dispenser, pull power cord out.
   - I. Route conduit (flexible) through conduit fitting hole at lower right-hand rear corner.
   - J. Pull conduit back through access panel to install ⅞" conduit fitting.
   - K. Feed conduit to front of dispenser up along the lower front panel (stainless steel) to control box.
   - L. Connect conduit fitting to control box.
   - M. Pull three 14 gauge conductors (black, white, and green) through conduit and connect to pigtails with wire nuts furnished. (Do not disconnect plastic strain relief holding pigtails.)

     NOTE: Tape over the wire nuts with electrical tape after nuts are tightened.

FINAL CHECK LIST FOR DISPENSER INSTALLATION

1. Is the dispenser level.
2. Has all internal packing, auger shipping block and tape been removed?
3. Are all electrical and water connections complete?
4. Is there a 5" clearance on all sides for air circulation? (Required when an ice machine is placed on top.)
5. Is there a separate drain for the dispenser, when an ice machine is placed on top?
6. Are the drains vented?
7. Has the ice machine (when used) been secured to the dispenser?
8. Is the lower back panel assembly (Item 69, Fig. 13) on the dispenser? This should be in place before the dispenser is operated.
9. When the actuator is depressed, is the dispenser operational?
10. Has the dispenser been sealed and fastened to the countertop?

NOTE: When installing a Manitowoc ice machine on top of this dispenser, it is important to correctly set the ice machine's ice bridge thickness. The thinner the ice bridge on the ice machine, the better the ice will break up for dispensing. Too thick a bridge will allow ice chunks to fall into the bin and prevent cubes from breaking up for easy dispensing. This will cause a slower dispensing rate.

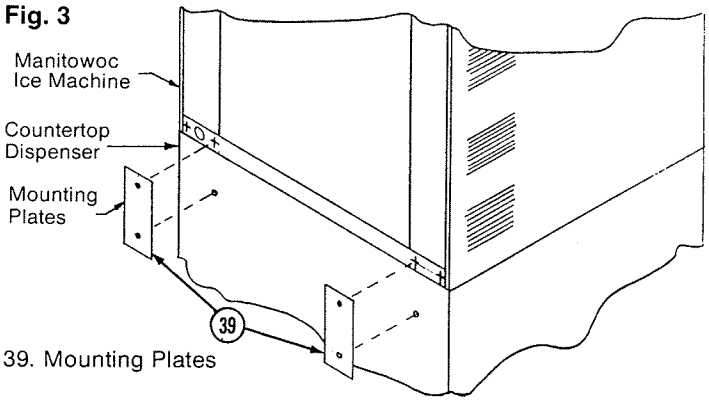
If using a small mouth glass, 2½" diameter or smaller, it is recommended that "dice" size cubes be used.

This dispenser has an ice chute insert (Item 42, Fig. 4) installed for use with "half dice" size ice. When using this dispenser with "dice" size ice, it is necessary to remove the ice chute insert.

SERIAL NUMBER AND ELECTRICAL DATA

An identification plate detailing serial number and electrical data is located on the **rear** of the dispenser. A second plate is located behind the dispenser's **front** cover.

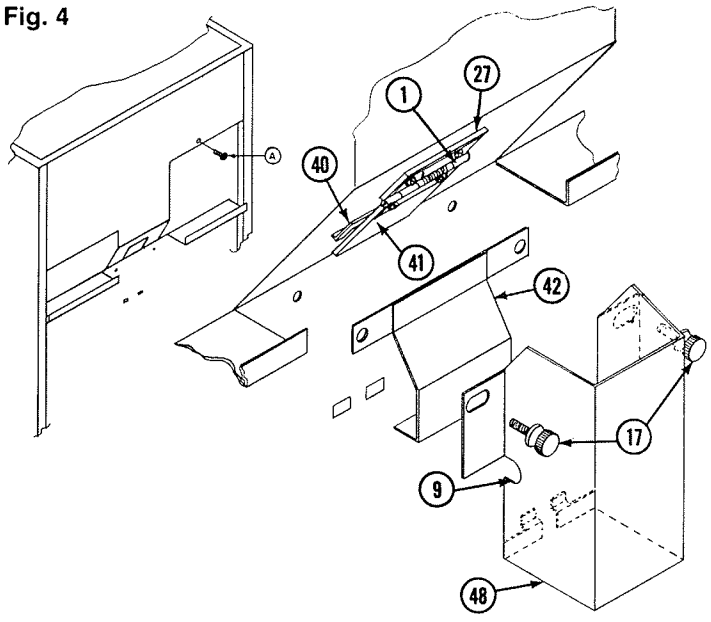
Fig. 3



39. Mounting Plates

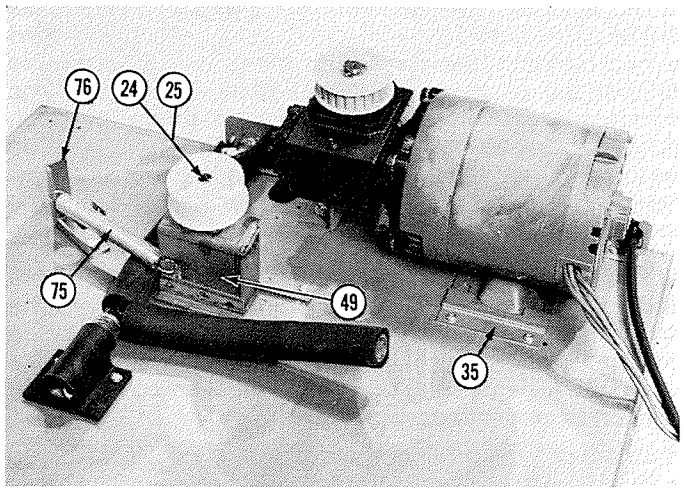
Fasten mounting plate top hole using two screws from back of ice machine. Using plate as a locator, drill two holes 5/32" diameter in the back of dispenser back panel. Avoid drilling more that ½" deep to prevent damaging liner. Secure bottom hole in plate with screws provided.

Fig. 4

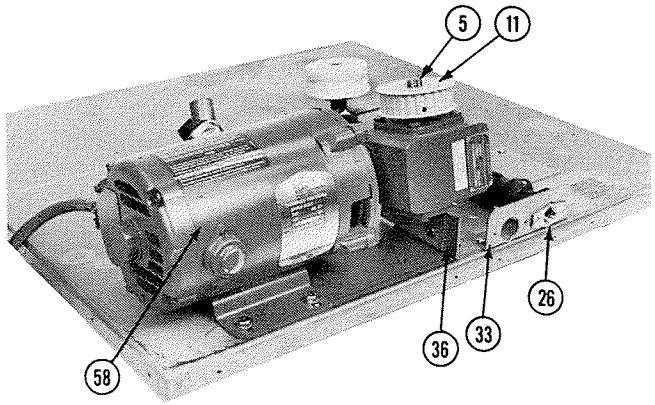


1. Spring
9. Bearing 5/8" OD x 5/16" thick
17. Thumbscrew — 8/32 x 7/16 B60030 Ice Chute
27. Hinge Pin
40. Clip — Hinge Pin
41. Door — Living Hinge
42. Insert
48. Ice Chute

Fig. 5



24. Washer 1⅜" OD
25. Tensioner Bearing
35. Gear Motor Lock Bracket
38. Cover — Base Hole
49. Belt Tensioner Mtg. Bracket Weld
75. Spring Belt Tensioner
76. Bracket Spring Belt Tightener



5. Key Stock
11. Small Drive Pulley Assembly
26. Drain Fitting Assembly
33. Drain Fitting Bracket
36. Gear Box Angle Bracket
58. Drive Motor/Gear Reducer

OPERATION PRINCIPLES (Countertop)

This dispenser's electric motor is coupled directly to a right angle gear box that drives through a ⅜" pitch positive displacement belt, the dispensing auger and an agitator auger.

The dispensing auger turns at approximately 35 revolutions per minute, and the agitator turns at approximately 17 revolutions per minute (see Fig. 5).

The dispenser motor is activated by an ice delivery switch located in a switch control box enclosure behind the upper front panel of the dispenser. The ice delivery switch is closed by the ice delivery actuator lever, which is activated by the customer or attendant when ice is required (see Fig. 6). This switch controls a contactor that controls power to the dispenser motor (see Fig. 7).

The ice delivery rate ranges from 1.8 oz./sec. to 0.8 oz./sec., depending on cube size and bin fullness.

NOTE: Always be sure electrical power is disconnected before **cleaning** or **performing** maintenance on this dispenser.

BELT TIGHTENING AND REPLACEMENT

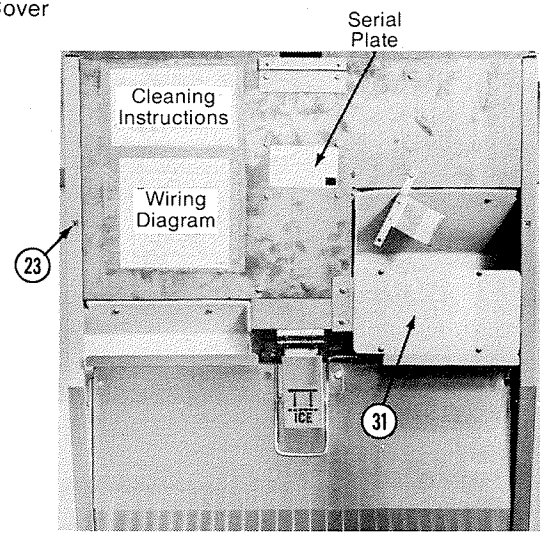
NOTE: ***Before tightening or replacing the belt, disconnect electrical power.***

The belt is held snug by a tensioner that is located between the gear motor pulley and ice dispensing auger pulley. This is accessible by removing the dispenser's rear panel. Access is also available from the dispenser front by removing the drain pan wrapper, drain pan and front panels. Working from the front is more difficult.

The belt is tensioned by an extension spring (see Fig. 5). Any time a belt is replaced or the tensioner is loosened, grease should be re-applied between the tension wheel bracket and the cabinet base. This grease will insure that tensioner bracket can move freely. **Be sure wedge is correctly positioned under the gear box (see Fig. 9).**

Fig. 6

23. Cage Nut
31. Cover



SWITCH ADJUSTMENTS AND REPLACEMENT

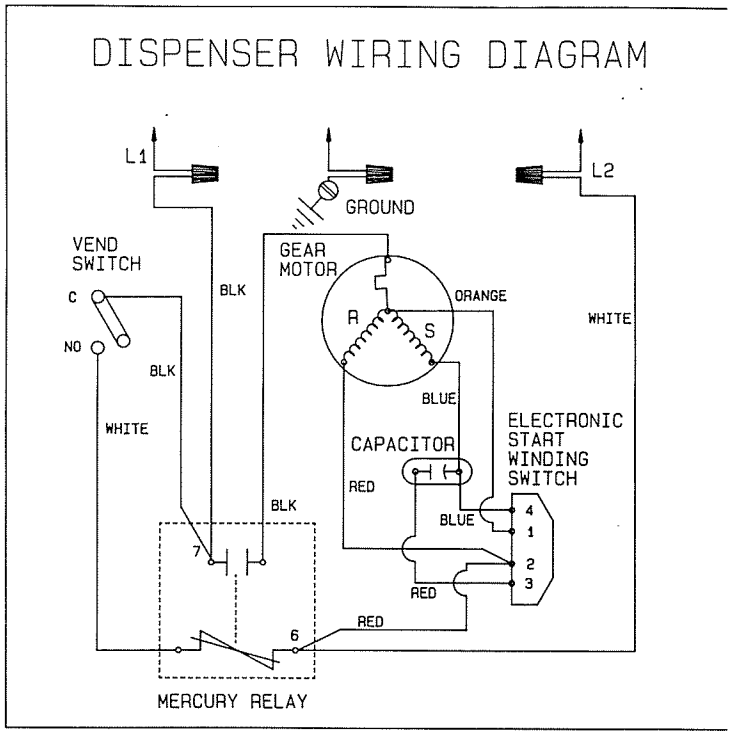
NOTE: ***Before removing the switch control box cover, disconnect electrical power.***

The actuator switch is located in a switch control box behind the upper front panel (see Fig. 6).

The **actuator** switch is normally open but closes as the actuator lever is pushed back or down. It can be adjusted by bending the flat or round arm on the switch. The switch should make contact just before the ice delivery door is completely open, and the switch contacts should open as the ice delivery door starts to close. The switch can be adjusted by listening for clicks as the switch is opened and closed.

Fig. 7

Model 260 Countertop Dispenser Wiring Diagram



TROUBLESHOOTING

ELECTRONIC START WINDING SWITCH

Item 57 (Sinpac Switch), Fig. 12 (see Wiring Diagram, Fig. 7)

This device switches the start winding in and out of the circuit. This device replaces the mechanical/centrifugal switch on the ¼ hp capacitor start motor. The electronic switch (Item 57) monitors the voltage wave forms across the start winding. The wave form displays a slight dip followed by a rise at the motor shaft speed where proper switch operation should occur (75-80% of synchronous speed).

The electronic switch will usually fail with the switch (Triac) in the open mode (nonconducting). If the motor won't start and run, the switch can be tested by momentarily jumping the device across terminal number 3 and 2. This will engage the start winding.

If for some reason the electronic switch failed in the closed mode (conducting), the motor overload should trip, and the device (Item 57) can be checked with an amp probe on the line coming off terminal number 2. The amp draw should decrease within one second, if start winding drops out.

NOTE: Anytime a problem occurs with the motor the start capacitor (Item 72, Fig. 12) should be suspected and checked.

CLEANING INSTRUCTIONS

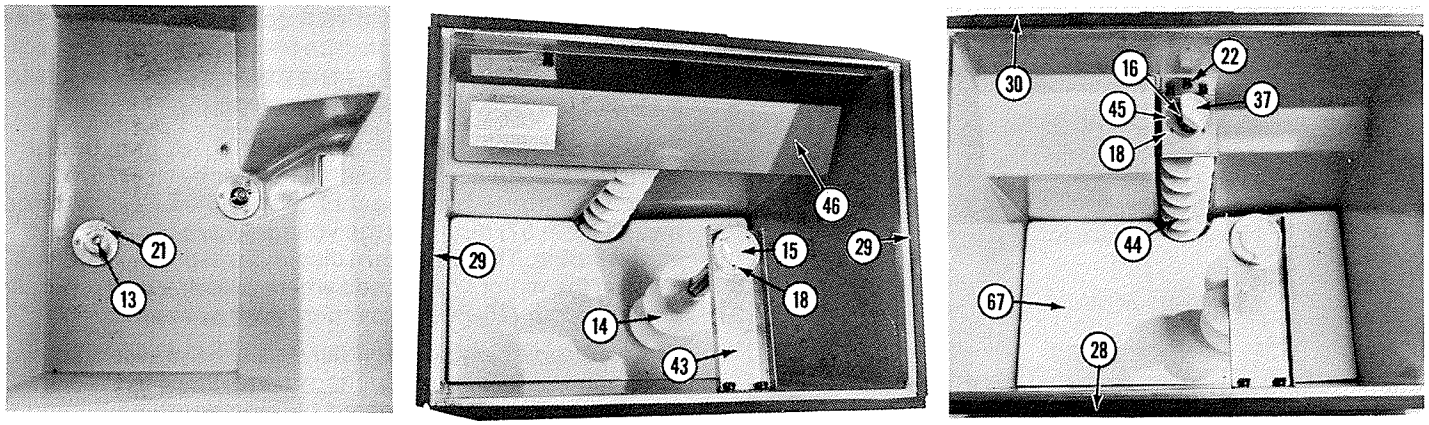
1. Remove all ice from storage bin.
2. Disconnect electrical power.
3. Remove thumbscrews holding the ice deflector, dispensing auger and agitating auger. Once the thumbscrews have been removed the augers can be lifted up and out of the dispenser (see Fig. 8).
4. The false bottom can then be lifted out of the dispenser.
5. The inside of the bin, augers, upper bearing brackets and false bottom can be cleaned and sanitized with a solution of 3 oz. of Manitowoc Ice Machine Cleaner per gallon of water.
6. Rinse all parts with clear water before assembly.
7. Remove upper front panel to gain access to ice chute, ice chute insert, door assembly, actuating lever and bearings. Clean and sanitize with the same concentration as used on the bin and internal parts.

WARNING: *Do not use metal scrapers or abrasives on the bin liner or plastic parts. Abrasives will destroy the smooth surfaces.*

AUGER AND AGITATOR DRIVE ASSEMBLY REMOVAL

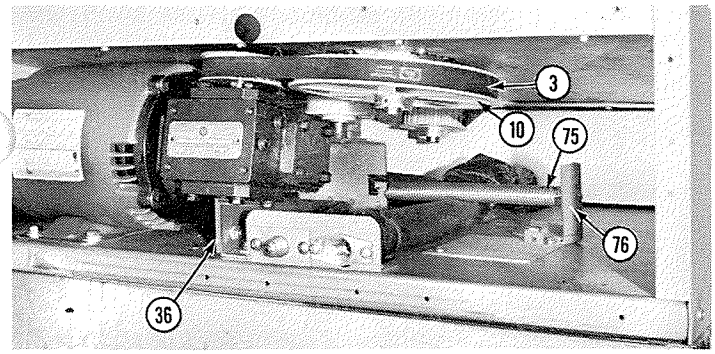
1. Empty ice from dispenser.
2. Disconnect electrical power.
3. Remove rear access panel.
4. Remove the dispenser's top cover (manually-filled dispensers) or the ice machine's front panel (automatically-filled dispensers). After removing the front panel, shut off power to ice machine by using ice machine's on-off switch.
5. Remove the ice deflector and upper bearing supports for the auger and agitator by removing the thumbscrews which fasten the supports to the dispenser.
6. Vertically lift the agitator and auger off the drive shaft and out of the dispenser (see Fig. 8).
7. Lift the false bottom out of the dispenser. When an ice machine is located on top of the dispenser, the water pump, water trough and water curtain must be removed from the ice machine before the false bottom can be lifted out of the dispenser.
8. The drive assembly is now accessible for bearing removal (see Bearing Removal).

Fig. 8



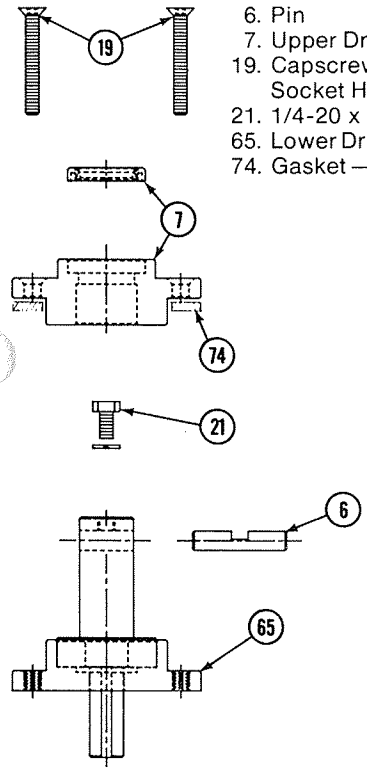
29. Top Side Trim
30. Top Front Trim
37. Cam (260 Only)
43. Agitator Bearing Bracket Weld
44. 4" OD Auger Fluidized
45. Auger Bearing Bracket
46. Ice Deflector (260 Shown)
67. Liner False Bottom Assembly
13. Lower Bearing Coupling
14. Agitator Flight 8" OD
15. Agitator Bearing 1.625 ID
16. Auger Bearing 1.334 ID
18. Thumbscrew #8 x 1/2 Type A
21. 1/4-20 x 1
22. Thumbscrew — Plastic
28. Top Rear Trim

Fig. 9



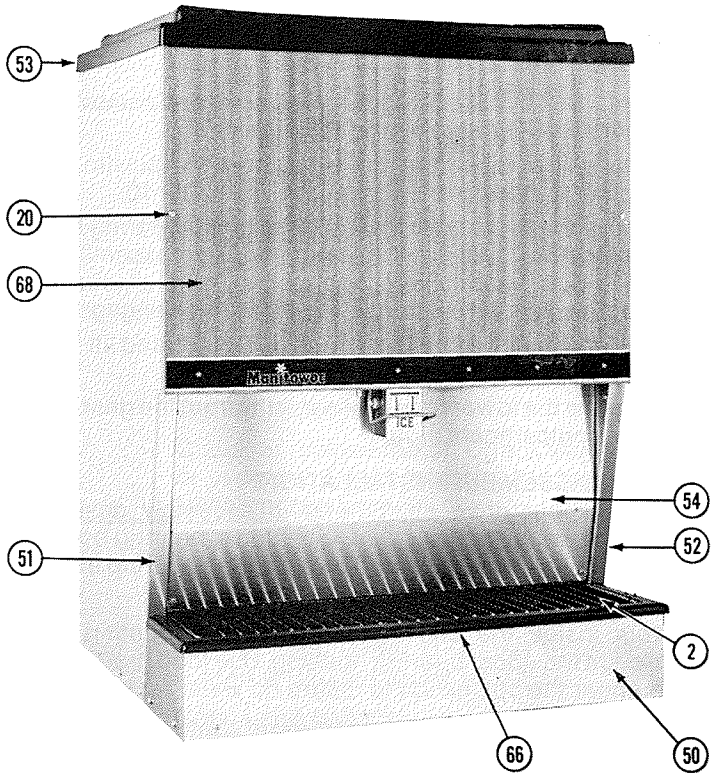
3. Positive Drive Belt
10. Large Pulley Assembly
36. Gear Box Angle Bracket
75. Spring — Belt Tightener
76. Bracket — Spring Belt Tightener

Fig. 10



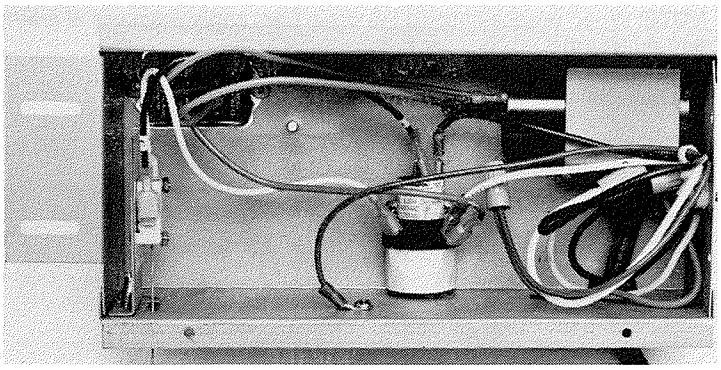
6. Pin
7. Upper Drive Shaft Housing Assembly
19. Capscrew 1/4-20 x 2" Tourqes Socket Head
21. 1/4-20 x 1
65. Lower Drive Shaft/Housing Assembly
74. Gasket — Upper Drive Shaft Housing

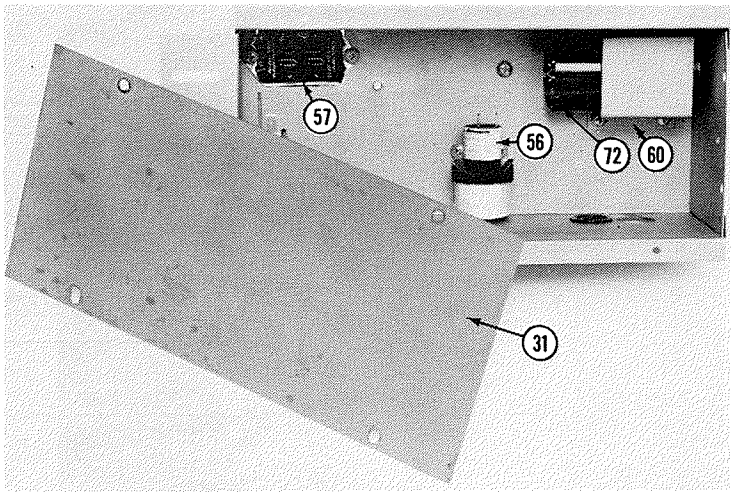
Fig. 11



2. Grill — Wire
20. #8-32 x 1¼ Phil Tr MS/Zinc
50. Drain Pan Wrapper
51. LH Lower Front Trim
52. RH Lower Front Trim
53. Top Cover (Black)
54. Lower Front Panel
66. Drain Pan Assembly
68. Front Panel Assembly

Fig. 12





31. Control Box Cover
56. Relay
57. Sinpac Switch
60. Start Capacitor Bracket
72. Start Capacitor

BEARING ASSEMBLY REMOVAL

1. Auger ice out of bin and then remove all remaining ice by hand.
2. Remove auger assembly (refer to Auger Assembly Removal).
3. Loosen belt by loosening belt tensioner and remove belt (refer to Belt Tightening and Replacement).
4. Remove lower bearing drive pin and the plastic drive coupling on the agitator drive shaft (see Fig. 10).
5. Remove the three bolts that hold the upper bearing housing assembly to the lower bearing housing assembly.
   NOTE: Bolt heads have been filled with silastic that should be cleaned out to insure good wrench engagement.
6. Withdraw the three bolts from inside the bin and lift upper bearing assembly out of dispenser.
7. Withdraw the lower bearing assembly from the gear-and-motor compartment side.

BEARING ASSEMBLY INSTALLATION

1. Install upper drive shaft housing assembly gasket to insure a water-tight seal between upper bearing housing and polyethylene bin liner. Then position bearing assembly in bottom of bin.
2. From inside the bin, insert the three mounting bolts through the upper bearing housing. Use food grade silastic under the bolt heads to insure no water leakage.
3. Install the lower bearing housing and shaft from the gear-and-motor drive compartment side.
   NOTE: Start all three bolts and tighten together to assure alignment. Tighten to 95 ± 5 in. lbs. of torque.

   NOTE: Protect the water seal from damage during assembly and disassembly. (Grease water seal lips with Vaseline.)
4. Insert the pin into the lower bearing drive shaft and insert bolt and washer. The plastic drive coupling must be replaced on the agitator drive shaft.
5. Install the auger and agitator assemblies (refer to Auger Assembly).

Fig. 13

63. Drain Fitting Filler Plate
64. Soda Line Cover Plate
69. Lower Back Panel Assembly

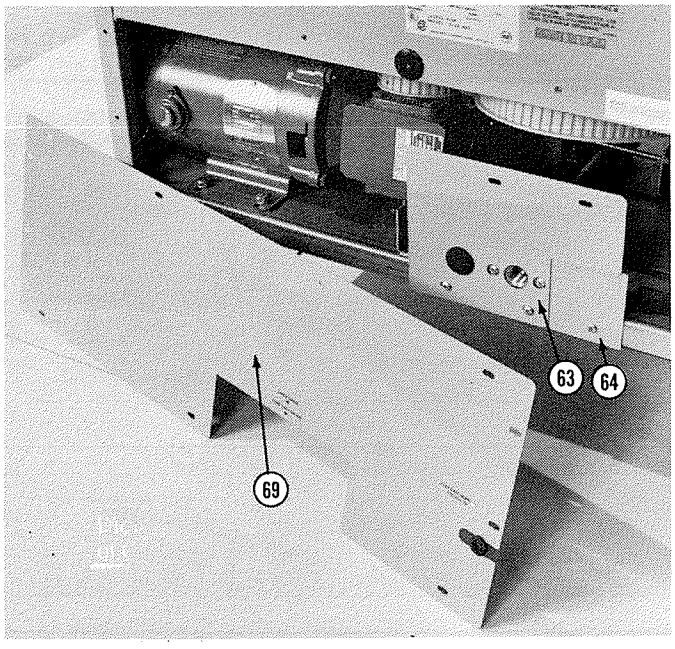
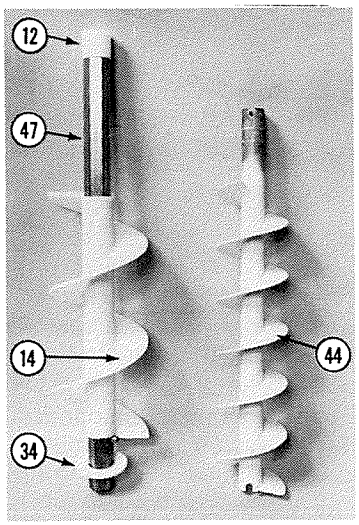
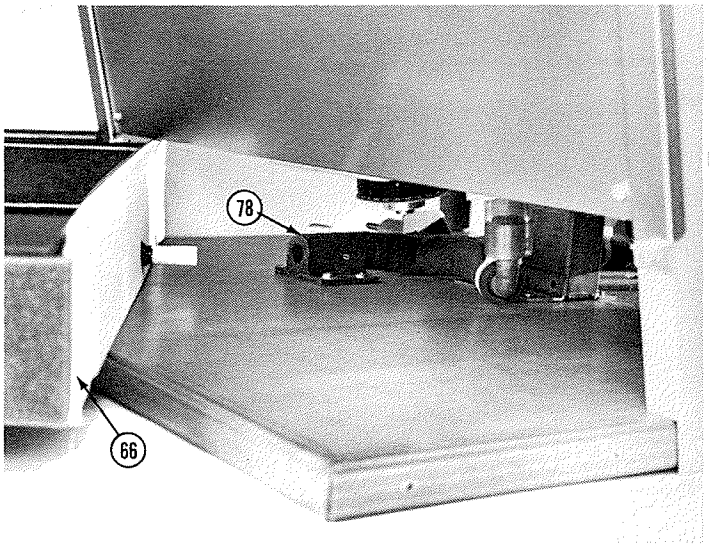


Fig. 14



12. Upper Bearing Coupling
14. Agitator Flight 8" OD
34. Agitator Shaft Washer
44. Auger 4" OD — Fluidized
47. Agitator Shaft — Pin Weld

Fig. 15



78. Drain Pan Hose Seal
66. Drain Pan Assembly

NOTE: When preassembling the drain pan, apply pressure at drain pan outlet tube.

SERVICE

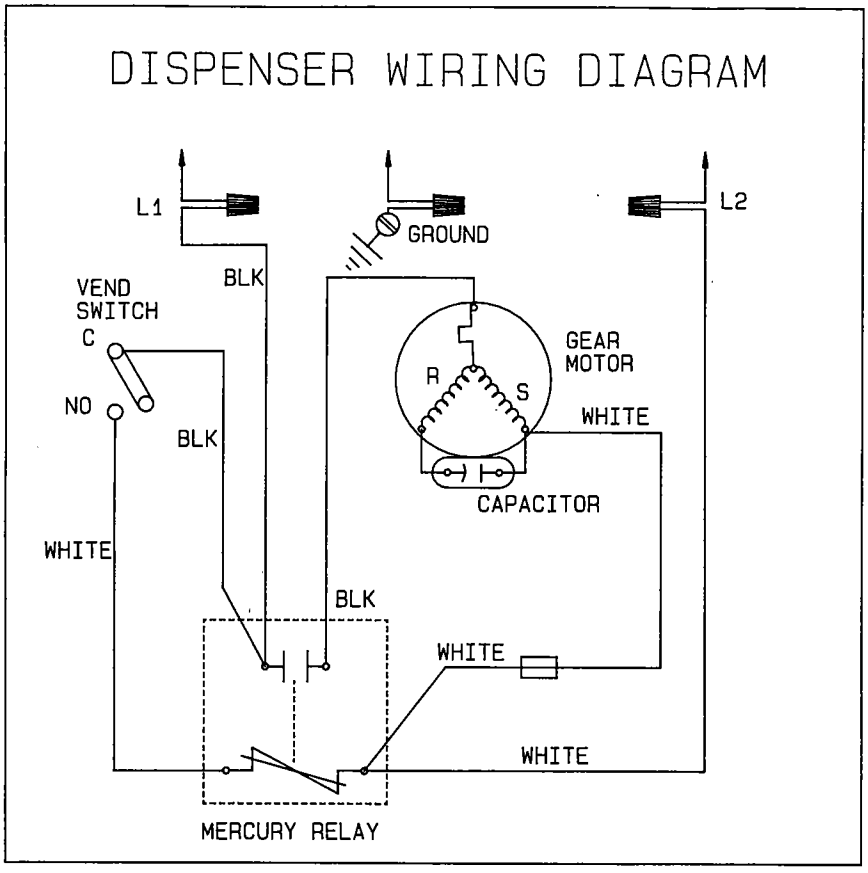
NOTE: All service should be performed by a Manitowoc Service Representative.

TROUBLESHOOTING

TROUBLE	POSSIBLE CAUSE	CORRECTIVE MEASURES
Dispenser will not dispense ice.	Bin empty.	Fill manually or check ice machine operation.
	Power off.	Connect power cord. Check Fuse.
	Large clusters of ice in bin.	Check and adjust ice bridging. Do not use bagged ice or be sure ice is broken up before putting in dispenser.
	Ice jammed in ice chute opening.	Check and clear opening.
	Defective Switch.	Check and adjust or replace.
	Drive belt broken or loose.	Tighten or replace.
	Drive motor defective.	Check or replace motor. Check start capacitor or replace. Check electronic motor starting switch or replace.
Drive motor operates but auger doesn't turn.	Auger not properly seated on lower bearing drive shaft.	Check and reseat correctly.
	Keys not in place on shafts.	Replace key.
	Belt loose. (If belt is loose, you will hear a ratcheting noise.)	Grease base under tensioner bracket. Verify wedge is located under gear box.
	Defective gear reducer.	Check and replace.
Motor running continuously.	Ice jammed in door opening.	Clear door. This can usually be done by dispensing a glass of ice.
	Switch.	Adjust or replace

Fig. 16

Countertop Dispenser
Wiring Diagram
230 Volt — 50 HZ



Callout Reference Chart

1. Spring
2. Grill — Wire
3. Positive Drive Belt
4. Lip Seal (Part of Item 7)
5. Key Stock — 3/16" sq. x 1" lg. for use with Drive Pulleys
6. Pin
7. Upper Drive Shaft Housing Assembly
8. Sleeve Bearing (Part of Item 7)
9. Bearing ⅝" OD x 5/16" thick
10. Large Drive Pulley Assembly
11. Small Drive Pulley Assembly with Keyway
12. Upper Bearing Coupling
13. Lower Bearing Coupling
14. Agitator Flighting
15. Agitator Bearing 1.625 ID
16. Auger Bearing 1.334 ID
17. Thumbscrew — 8/32 x 7/16 B60030 Ice Chute
18. Thumbscrew — #8 x ½ Type A
19. Capscrew ¼—20 x 2" Torx Socket
20. #8-32 x 1¼ Phil/Tr MS/Zinc
21. ¼—20 x 1 Full Thread MS SS
22. Thumbscrew Plastic
23. Cage Nut
24. Washer 1⅜ OD
25. Tensioner Bearing
26. Drain Fitting Assembly
27. Hinge Pin
28. Top Rear Trim
29. Top Side Trim
30. Top Front Trim
31. Control Box Cover
32. Switch Box Cover
33. Drain Fitting Bracket
34. Agitator Shaft Washer
35. Gear Motor Lock Bracket
36. Gear Box Angle Bracket
37. Cam (260 Only)
38. Cover — Base Hole
39. Tie Strap
40. Clip — Spring Core
41. Door — Living Hinge
42. Insert/Mounting Strip Spotweld
43. Agitator Bearing Bracket Weld
44. 4" OD Auger Fluidized
45. Auger Bearing Bracket
46. Ice Deflector
47. Agitator Shaft — Pin Weld
48. Ice Chute
49. Belt Tensioner Mounting Bracket Weld
50. Drain Pan Wrapper
51. Left Hand Lower Front Trim
52. Right Hand Lower Front Trim
53. Top Cover (Black)
54. Lower Front Panel
55. Switch/Actuator Pilot Duty
56. Relay
57. Sinpac Switch
58. Drive Motor/Gear Reducer
60. Start Capacitor Bracket
61. Actuating Arm — Two Hand/CA260
62. Actuating Arm — Glass Fill/261
63. Drain Fitting Filler Plate
64. Soda Line Cover Plate
65. Lower Drive Shaft/Housing Assembly
66. Drain Pan Assembly
67. Liner False Bottom Assembly
68. Front Panel Assembly
69. Lower Back Panel Assembly
72. Small Drive Pulley Assembly without Keyway
73. Roll Pin
74. Shim Angle Weld
75. Spring Belt Tensioner
76. Bracket—Spring Belt Tightener
77. Gasket — Upper Drive Shaft Housing
78. Drain Pan Hose Seal