

SERVICE MANUAL

EdgeStar 12 Lb. Built-In Ice Maker

MODEL:

IB120SS

**CAUTION: READ ALL SAFETY PRECAUTIONS IN THIS
MANUAL BEFORE SERVICING THE UNIT**

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SAFETY PRECAUTIONS

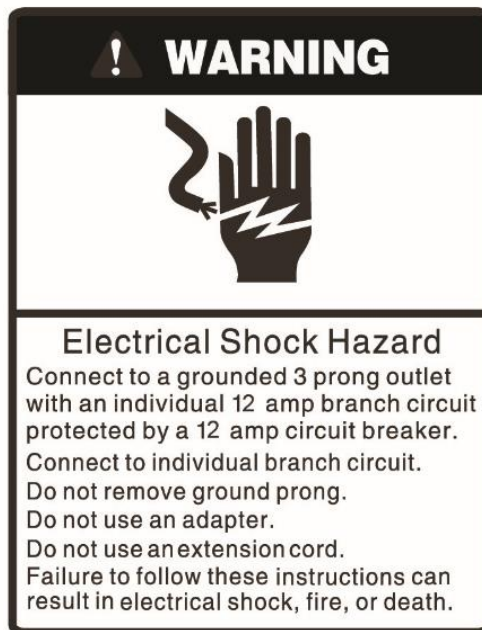
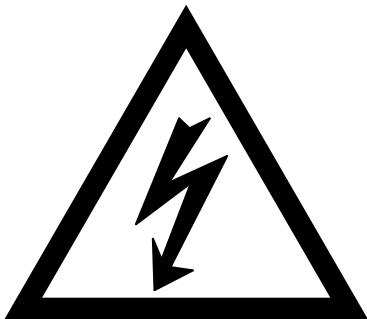
WARNING: This manual and the information contained herein is intended for use by certified technicians. The manufacturer or seller is not responsible for the interpretation or misuse of the information provided, nor does it assume any liability in connection with its use.

The safeguards and warnings indicated in this manual do not cover all possible conditions which may occur. Common sense, caution, and care must be exercised.

- To prevent electric shock, always unplug an appliance from the power supply before attempting any service.
- Disconnect the power cord by grasping the plug, not the cord.
- Do not bypass, cut, or remove the grounding plug.
- Prevent water from spilling onto electric elements or the machine parts.
- Always refer to the rating label on the appliance for rated current and voltage.
- Always check line voltage and amperage.
- Always use exact replacement parts.
- Any attempt to repair a major appliance may result in personal injury and property damage.

Electrical Safety

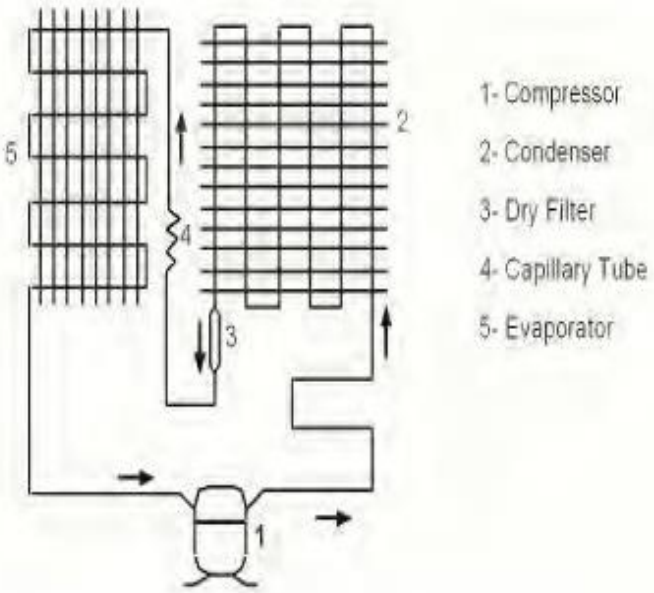
- Do not exceed the power outlet ratings.
- It is recommended that the unit be connected to its own circuit.
- A standard electrical supply (120V, 60Hz), that is properly grounded in accordance with the National Electrical Code and all state and local codes and ordinances is required.
- Do not use outlets that can be turned off by a switch or pull chain.
- Always turn the unit off and unplug it from the outlet when cleaning.
- Unplug the unit if it is not going to be used for an extended period of time.
- Do not operate the unit with a power plug missing the ground plug, a damaged cord, or a loose socket.
- Be sure the appliance is properly grounded.
- Do not bypass, cut, or remove the grounding plug.
- If the power cord is damaged, it must be replaced by the manufacturer or a qualified technician.
- Do not use extension cords or power strips with this unit. You may need to contact an electrician if it is necessary to use a longer cord or if you do not have a properly grounded outlet. Do not modify the power cord's length or share the outlet with other appliances.
- Do not start or stop the unit by switching the electrical circuit's power on and off.
- Immediately unplug the unit if it makes strange sounds, emits an odor or smoke and contact customer service.
- Do not remove any part of the casing unless instructed by an authorized technician.
- Before the appliance is removed from service or discarded, remove the door and cut off the power cord.



General Safety

- Always unplug an appliance from the power supply before attempting any service. Disconnect the power cord by grasping the plug, not the cord.
- Do not allow children or pets to play on or in the appliance.
- This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the machine by a person responsible for their safety.
- Do not install or store this appliance where it will be exposed to the weather.
- Disconnect from the power socket before cleaning or maintenance.
- If the plug (power cord) is damaged, it must be replaced by the manufacturer or an authorized service representative.
- This machine shall be repaired only by an authorized service representative. Only genuine replacement parts should be used.
- If connected to a circuit protected by fuses, use time-delay fuses with this appliance.
- Do not lean items against the glass door.
- Please do not close the door with excessive force. If it is found difficult to close the door, please check for obstruction.
- When you plan to dispose of this unit in the future, please comply with the local waste disposal regulations. Remove the door so that children and pets will not be trapped in the unit.

Cooling System Overview

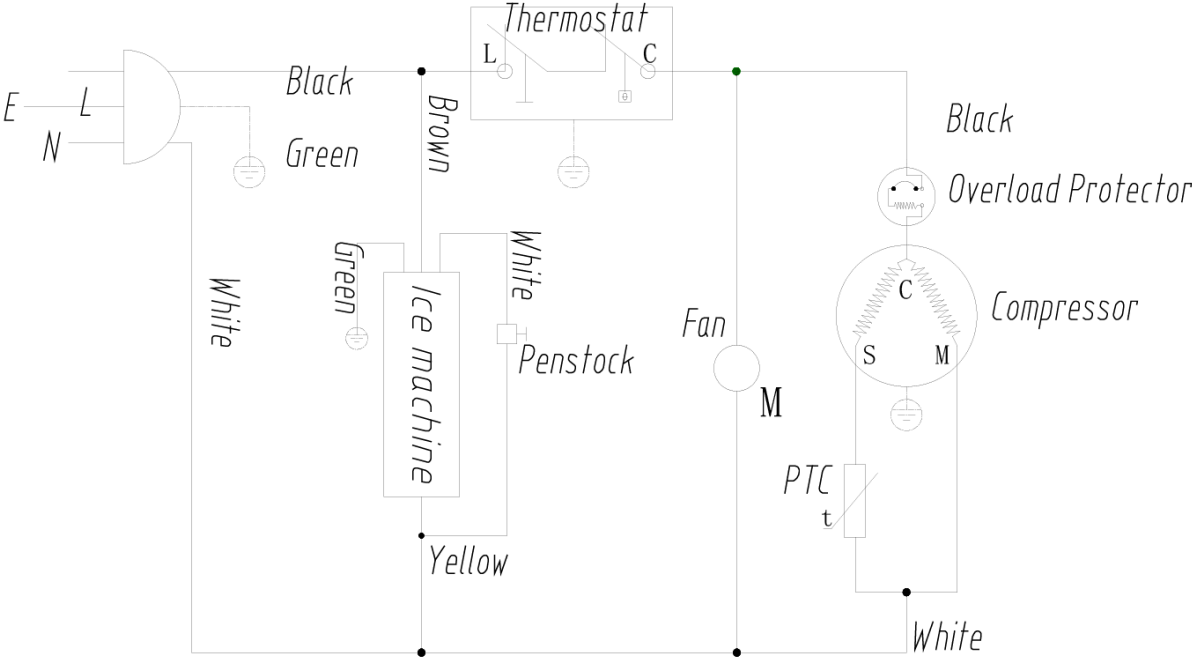


During the ice making stage the hot refrigerant gas is pumped out of the compressor to the condenser. The hot gas is cooled by fan forced air after passing through the condenser. The filter dryer helps reduce dirt and moisture in the refrigerant. The evaporator (ice mold) is cooled by the refrigerant. Ice is formed in the evaporator after water fills the mold from the water inlet valve. Low pressure refrigerant gas goes back to the compressor from the evaporator.

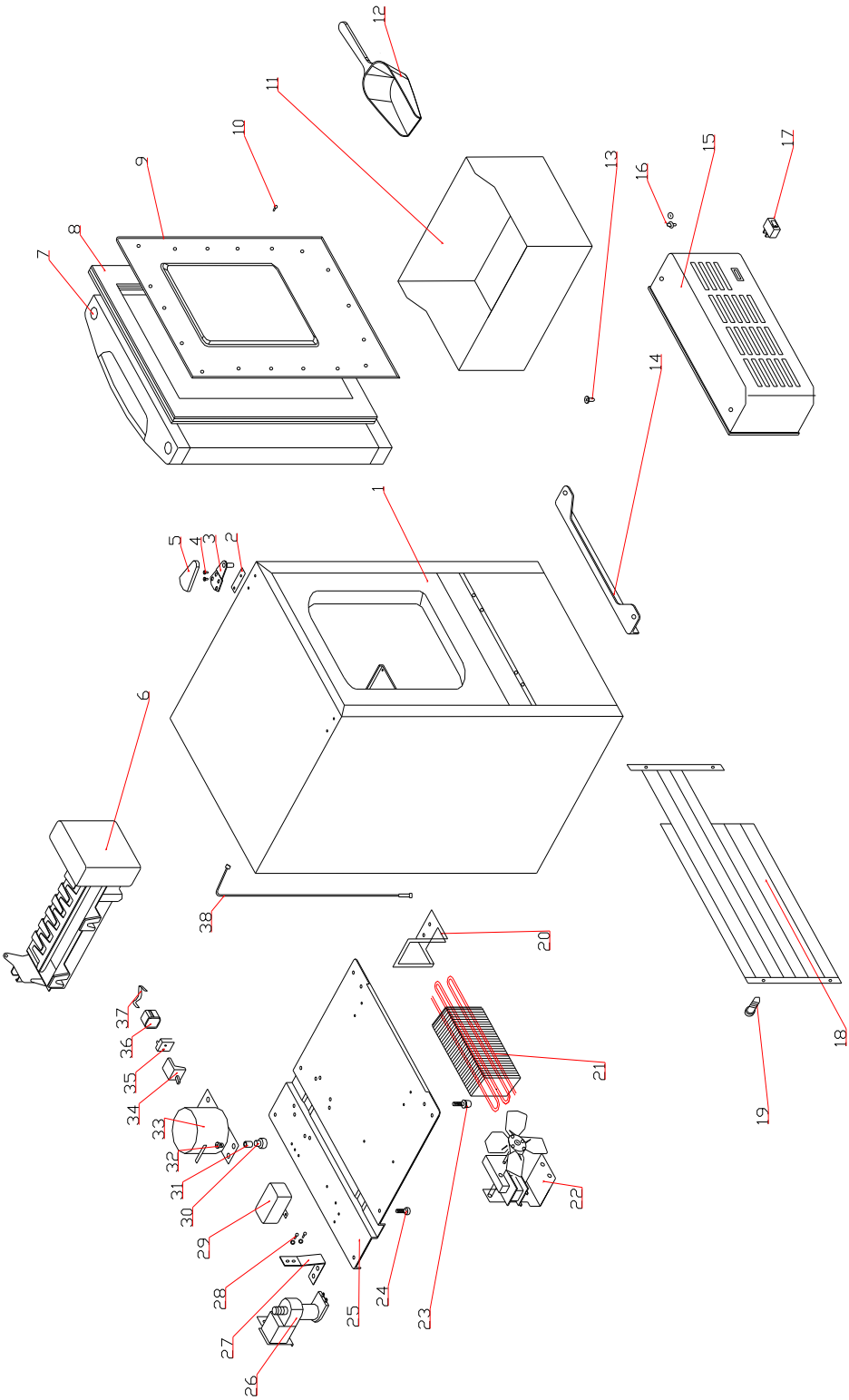
During the ice harvest stage the evaporator heater warms and the ice touching it is slightly thawed and releases from the evaporator. The harvested ice then proceeds into the ice storage bin.

Circuit Diagram

This unit is a direct cooling single-system ice maker. The thermostat directly controls the starting and stopping of the compressor, and therefore, the unit temperature.



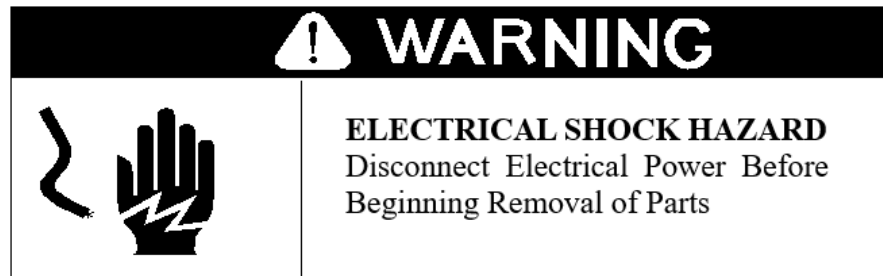
Exploded View Diagram



Parts List

No.	Part Name	No.	Part Name
1	Cabinet	21	Condenser
2	Top Hinge Cushion	22	Fan
3	Top Hinge	23	Adjustable Foot
4	Tapping Screw	24	Tapping Screw
5	Top Hinge Cover	25	Compressor Base
6	Ice Module	26	Water Valve
7	Door	27	Water Valve Support
8	Gasket	28	Screw
9	Door Liner	29	Thermostat Enclosure
10	Tapping Screw	30	Rubber Foot
11	Ice Bin	31	Tube
12	Ice Scoop	32	Bolt
13	Tapping Screw	33	Compressor
14	Veil Support	34	Over Load Protector
15	Veil	35	PTC Starter
16	Hinge Shaft	36	Relay Cover
17	Switch	37	Clip Relay Cover
18	Safety Cover	38	Water Pipe
19	Tapping Screw	39	Door handle
20	Condenser Support		

Troubleshooting



Basic Precautions

1. Make sure the unit is connected to a 115 Volt, 60Hz. AC only 15 amp electrical supply and is properly grounded to protect against electrical shock.
2. Make sure the power cord is not damaged.

Basic Checks

Listen

- Listen to the customer's description of the problem with the icemaker. Try to understand what the current defect is and how the unit operated before calling for service.
- Listen to how the unit sounds when it runs. Often times problems can be diagnosed by sound(s) or lack of sound.

See

- Check the copper lines of cooling system, especially at the welding points. If oil is seen around any part of the cooling system it is likely due to a refrigerant leak.
- Check if the ice-making and ice-harvest cycles are normal. Too long or too short a cycle may result in a system malfunction.
- Check the water system for leaks, especially at the connections. Make sure the pump drain cap on the rear of the unit is tight and doesn't leak.
- Check the water filter (if installed.) A dirty filter needs to be replaced.
- Check if the icemaker is installed according to the user's manual.
- Check if the icemaker needs to be cleaned. Lack of regular cleaning will result in problems and may cause health issues.

Touch

- Touch the discharge line from the compressor and make sure it is hot. Touch the suction line and make sure it is cool.
- Touch the top of the evaporator. It will be cold during Ice-Making and warm up during Ice-Harvest.

Advanced Troubleshooting Guide

The troubleshooting guide in the user manual should be referred to before this guide. Turn to this guide when the user manual does not solve the issue.

The Unit Does Not Make Ice

Problem	Check point	Possible Cause	Correction
Unit will not turn on	Plug	The icemaker is unplugged.	Plug in the icemaker.
	Wall Socket	Socket is damaged.	Repair or replace.
	Power Switch	The icemaker power switch is OFF.	Turn the power switch to ON.
	Fuse	The fuse is blown.	Replace fuse.
	Wiring Connections	A wiring connection is incorrect, damaged or loose.	Check, repair and/or re-connect.
	Voltage	The voltage to the power PCB is low.	Repair or replace wall socket or power cord.
	Ice Full Sensor	The ice full sensor is defective (The icemaker will stop after it completes 18 cycles.)	Replace sensor.
	Ice Full Sensor	The ice full sensor is covered by something.	Clean and clear the sensor.
	Electric Component	Electric component failure (i.e. fan, PCB, etc.)	Pressing the mode button to change the modes is helpful in diagnosing.
	Control Board	The control PCB is damaged or defective.	Replace.
	Water Supply	The water supply tap is turned off or not all the way up.	Turn on the water supply tap on fully.
Water System	Water Supply Pipe	The water supply pipe is not properly connected or maybe kinked.	Reconnect the water supply pipe.
	Water Line	Water line leaks.	Repair connection or replace line.
	Water Line	The water line is blocked.	Clean line, see user manual "ice making system cleaning"
	Water Inlet Valve	Water supply pressure is low.	Turn water supply on fully to maximize pressure.
	Water Inlet Valve	Water inlet valve is loose.	Check and re-connect.
	Water Pump	Water pump damaged or defective.	Replace water pump.
	Water Pump	If room temperature is out the stated range the water pump stops automatically.	Adjust temperature within the stated range.

	Water Pump	Wires on the water pump loose, damaged or disconnected.	Check, repair and/or re-connect.
	Water Pump	The housing of water pump leaks.	Replace water pump.
Compressor will not run	Wiring connections	A wiring connection is incorrect, damaged or loose.	Check, repair and/or re-connect.
	Start Relay and Overload Protector	One or both defective.	Replace both relay and overload protector.
	Compressor Start and Run Coils	The compressor is short circuited.	Replace the compressor.
	Condenser	The condenser may be dirty.	Clean the condenser.
	Fan	The fan may be dirty or damaged.	Clean or replace the fan.
	Power Board	The board is damaged is or defective.	Replace the board.
Compressor runs but no ice is produced	Refrigerant	Refrigerant leak.	Add low side access valve, locate and repair leak, replace dryer, add nitrogen, pull vacuum and weigh in the refrigerant charge indicated on the data plate.
	Capillary tube	Capillary tube is blocked.	Add low side access valve, locate and repair leak, replace dryer, add nitrogen, pull vacuum and weigh in the refrigerant charge indicated on the data plate.
	Vent / Fans /Condenser	The airflow is obstructed around the ice machine.	Clean the vent, fans, and condenser.
	Hot gas valve	Hot gas valve damaged or defective.	Replace valve.
	Control Board	The control PCB is damaged or defective.	Replace.

Low Ice Production

Problem	Check point	Possible Cause	Correction
Cooling System	Refrigerant	Partial refrigerant leak.	Repair leak and recharge.
	Condenser	The condenser may be dirty.	Clean the condenser.
	Ambient Temperature	The ambient temperature is above 90F or below 65F.	Adjust the ambient temperature or move unit to better location.
	Fan	The fan is dirty or damaged.	Clean or replace fan.
	Hot Gas Valve	Defective valve.	Replace the hot gas valve
Water System	Bin Drain	The bin drain may be partially restricted.	Clean out the drain and check lines.
	Water line	Water line restricted.	Clean line and install a water filter.
	Rubber Water Tubes	Tubes distorted, kinked, leaking or blocked.	Clean, repair or replace tubes.
	Unit Dirty	Unit has not received regular cleaning.	Clean unit as outlined in the User Manual.

Ice Cubes Are Deformed or Wrong Size

Problem	Check point	Possible Cause	Correction
Ice Cubes Too Small	Condenser	The condenser or fans are dirty or the air vents are covered.	Clean the condenser and fans. Leave space around the machine.
	Ambient Temperature	The ambient temperature is too high.	Adjust the ambient temperature.
	Electronic controller	The ice size is set too small.	See “Ice Cube Size Adjustment Guidelines” in this manual.
	Refrigerant	Refrigerant leak.	Repair and recharge.
Ice Cubes Too Large	Electronic controller	The ice size is set too Large.	See “Ice Cube Size Adjustment Guidelines” in this manual.
	Sensor	The evaporator sensor is defective.	Replace the sensor.
	Ambient Temperature	The ambient temperature is too low.	Adjust the ambient temperature.
Ice Cubes Only Partially Formed or Have Ragged Sides	Water Quality	The water quality is poor.	Install a water-softener or water filter in front of the water inlet valve.
	Spray Nozzle	Spraying is blocked by the ice slide way.	Adjust the location of the ice slide way.
	Spray Bar	Spray bar obstructed.	Clean the spray bar see the user's manual.
	Water bin	Not enough water in the water bin.	Check water supply filter may be restricted.
	Water Pressure	Water supply pressure is low.	Turn water supply on fully to maximize pressure.
	The Room Temperature	The room temperature is out the stated range.	Adjust the ambient temperature.

Other problems

Problem	Check point	Possible Cause	Correction
The Unit Body is Electrified	Ground	The ground plug is broken.	Replace power cord.
	Lines	Shorted wiring.	Adjust, reconnect /replace wires.
	Electric component	Shorted electric component.	Replace component.
Scales Occur Frequently Inside Unit	Water Quality	The water quality is poor.	Install a water-softener or water filter in front of the water inlet valve.
Noise During Operation	Water Inlet Valve	Defective water inlet valve.	Replace the water inlet valve.
	Compressor	Excessive noise/vibration.	Tighten compressor bolts or replace the compressor.
	Water Pump	Defective water pump.	Replace the water pump.
	Cooling System	Refrigeration pipes vibrating.	Adjust pipes.
	Leveling Legs	The feet are not leveled.	Level and lock the feet.
	Fan Motor	The fan motor is loose or defective.	Repair or replace the fan motor.
Water Leaking Out of Unit	Water Supply Connection	Water connection leaking.	Tighten fitting. See "Connecting the water line."
	Water Pump Drain Cap	Leaking around cap.	Tighten fitting.
	Drain Pipe Connection	Drain pipe connection leaking.	Tighten fitting. See "connecting the drain."
Ice Harvesting is Difficult	Hot gas valve	The hot gas valve damage.	Replace the hot gas valve.
	Evaporator	The evaporator is dirty or finish is damaged.	Clean the ice mold, or replace the evaporator.
	Refrigerant	Refrigerant leaks	Recharge
	Ambient Room and Water Temperature	Temperature is too low.	Adjust the temperature.
	Ice Cube Size	Size is too large.	See "Ice Cube Size Adjustment Guidelines" in this manual.
	Ice Slide Way	Ice slide way is installed incorrectly.	Reinstall ice slide so harvested ice does not get stuck or blocked.

Specifications

Model	IB120SS
Voltage/frequency	115V/60Hz
Refrigerant	R134a, 2.4 oz
Current	1.7A
High Side	250 PSI
Low Side	110 PSI
Net Weight	52 Pounds

Note: Specifications are subject to change. Check the rating label on the back of unit for the most accurate information

DATE	REVISION NOTES
02/12/2018	INITIAL DOCUMENT