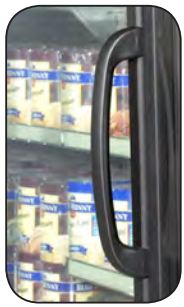
HUSSMANN®

Innovator, Innovator II & Innovator III

Reach-In Glass Door



Installation & Operation Manual

P/N 0425683_M
February 2019

IMPORTANT
Keep in store for future reference!

Spanish 0490775
French 0527088

MANUAL- I/O INNOVATOR DOOR

BEFORE YOU BEGIN

Read these instructions completely and carefully.

PERSONAL PROTECTION EQUIPMENT (PPE)

Personal Protection Equipment (PPE) is required whenever servicing this equipment. Always wear safety glasses, gloves, protective boots or shoes, long pants, and a long-sleeve shirt when handling glass.

This warning does not mean that Hussmann products will cause cancer or reproductive harm, or is in violation of any product-safety standards or requirements. As clarified by the California State government, Proposition 65 can be considered more of a 'right to know' law than a pure product safety law. When used as designed, Hussmann believes that our products are not harmful. We provide the Proposition 65 warning to stay in compliance with California State law. It is your responsibility to provide accurate Proposition 65 warning labels to your customers when necessary. For more information on Proposition 65, please visit the California State government website.

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IMPORTANT
KEEP IN STORE FOR FUTURE REFERENCE
Quality that sets industry standards!

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REVISION HISTORY

REVISION L — FEBRUARY 2019

1. Updated parts list screws, Page 31; California Warning, Page ii

REVISION K — FEBRUARY 2015

1. Innovator Door Maintenance
2. Innovator Door Hinge Replacement

REVISION J

1. Corrected part numbers, page 12

REVISION I

1. Added EcoShine II Plus LED Lighting, page 12
2. Added EcoShine II / Plus Part Numbers, page 15

REVISION H

1. Added EcoShine II LED Lighting, page 12
2. Added Innovator III part numbers, page 17

Revision G

1. Added Always*Bright LED lighting information, pages 12 through 18; pages 25, 29 & 30
2. Added Optional Glass Door Anti-Condensate Heater Controller information, pages 11 & 12
3. Added Always*Bright LED wiring diagrams, pages 15 & 18
4. Added ballast change-out direction, page 21

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ANSI Z535.5 DEFINITIONS

• DANGER – Indicate[s] a hazardous situation which, if not avoided, will result in death or serious injury.

• WARNING – Indicate[s] a hazardous situation which, if not avoided, could result in death or serious injury.

• CAUTION – Indicate[s] a hazardous situation which, if not avoided, could result in minor or moderate injury.

• NOTICE – Not related to personal injury – Indicates[s] situations, which if not avoided, could result in damage to equipment.

GENERAL

Be sure merchandisers have been leveled according to the installation instructions shipped with the reach-in merchandiser.

The door nameplate is attached to the top of the door, handle side, behind the magnetic gasket.

The frame nameplate is located on the top left near the switch.

ALWAYS*CLEAR™ NO FOG GLASS

Hussmann recommends using a soft cloth with isopropyl (rubbing) alcohol to clean the inside (coated) glass surface. Isopropyl alcohol does not freeze and evaporates without leaving residue. Always allow the surface to dry before closing the door. Use of abrasives may damage the coated surface and void the warranty. Labels (stickers) applied to the coated surface will cause damage and void the warranty.

SHIPPING DAMAGE

All equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports and/or claim forms.

NEW INSTALLATIONS

Untape the doors and remove shipping braces located at top and bottom of the doors.

Doors are not fine adjusted at the factory since they will go out of adjustment during shipment. This is normal.

ADJUSTING CLOSING TORQUE

Adjust closing torque by turning the bottom hinge pin in the direction the door closes. Use a 1/2 in. (13 mm) wrench. Turn the hinge pin until the door closes on its own, usually 3 to 4 clicks or 3/4 turn. See Figure 1.

DO NOT over-torque the hinge spring assembly. Excessive torque (over 1 full turn) will result in damage to the spring assembly and/or door. If door does not close on its own after one full turn (5 clicks), look for obstructions causing the door to hang up.

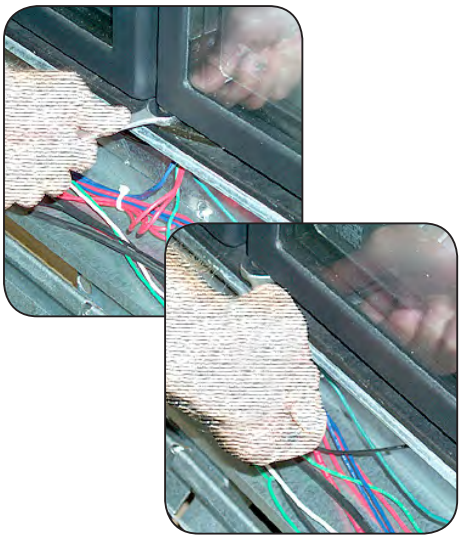


Figure 1. Adjusting Closing Torque

ADJUSTING DOOR SAG

To adjust door sag (saw-tooth effect from door to door), loosen the two hinge plate mounting screws using a Torx Plus no. 27 bit. Adjust hinge plate as needed, then tighten the screws. See Figure 2.

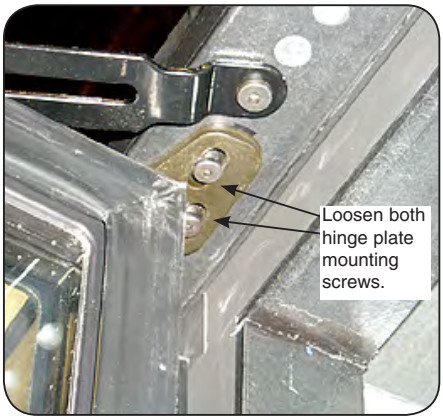


Figure 2. Adjusting Door Sag

CONDITIONING GASKETS

The manufacturer cannot control the environment surrounding cases during shipment. Temperature and humidity fluctuations during shipment, as well as excessive vibration, may promote gaps between gasket and frame. These gaps prevent gaskets from sealing even when correctly fitted at the factory. This is not a warranty issue or defect.

Before and After Gasket Conditioning

Follow this procedure to ensure gaps close and gaskets seal properly:

1. Remove all shipping retainers and all packing material.

2. Close each door. Use a flashlight to identify any gaps between frame and gasket.

3. Energize all anti-sweat, fan and light circuits for at least two hours, but not more than four hours, prior to initiating the refrigeration cycle.

4. Monitor all gaps. If gaps remain at the end of four hours, follow the procedure for Restoring Gasket Seal, beginning on page 6 of this manual.

5. Initiate cooling sequence once gaps disappear.

ATTENTION

TO ENSURE PROPER DOOR GASKET SEAL - REMOVE ALL SHIPPING RETAINERS AND ENERGIZE ALL ANTI-SWEAT, FAN & LIGHT CIRCUITS 2 TO 4 HOURS PRIOR TO INITITAING REFRIGERATION CYCLE.

DO NOT EXCEED 8 HOURS OF ENERGIZED CIRCUITS WITHOUT REFRIGERATION. DAMAGE OR PRODUCT FAILURE MAY OCCUR AND VOID THE WARRANTY.
DO NOT REMOVE THIS LABEL UNTIL REFRIGERATION IS INITIATED.

Do not exceed 8 hours of energized circuits without refrigeration. Doing so may cause damage to the case and will void the warranty.

INNOVATOR DOOR MAINTENANCE

As part of an ongoing maintenance program for Innovator Doors, Hussmann recommends that the items below be checked annually.

a) Proper door closing torque
b) Gasket performance (check for tearing and proper sealing)
c) Check the top hinge pin to ensure the pin is properly seated and not bent
d) Check the bottom hinge plate for excessive wear (worn cam teeth)
e) Proper operation of hold open brackets

1. Check the doors for proper closing torque:

Test 1: Open door 90 degrees and close it manually. Make sure the door opens and closes without binding

Test 2: Open door 90 degrees and release it. The door should close on its own

Test 3: Open door more than 3" but less than 6" and release it. The door should close on its own.

Torque adjustment, if needed, should be performed "one click" at a time. A "zero" torque door should not require more than 4 clicks.
If the torque cam and hinge socket are severely rusted, both components should be replaced. A severely rusted cam / socket assembly will not hold torque. Rust on the cam socket assembly is usually caused by one of the following:

• High humidity conditions > ASHRAE Type I
• Cycling of the frame heaters

Note 1: A rusted torque cam / socket assembly can cause excessive wear on the torque rod's spacer and sleeve bearing. The result is a door that can "seat" farther down the rod assembly to the point that it causes binding at the hold open bracket. It can also cause the top hinge pin's sleeve bearing to deform. If the door is seated too far down the torque rod assembly, it most likely damaged the top hinge pin sleeve bearing. If the pin is not bent, replacing the pin's nylon sleeve bearing will be sufficient. Although the torque rod assembly's sleeve bearing and spacer are replaceable, we recommend that a severely rusted torque rod assembly be replaced.

2) Inspect door gaskets:

- Check for tearing gaskets
- Make sure the gasket's dart is properly seated into the door's gasket groove.

3) Inspect the top hinge assembly for excessive movement at the top hinge socket.

- By design, the door will have a small, but discernible amount of movement at the top hinge pin / hinge plate socket joint. If excessive movement is detected, the hinge pin assembly should be inspected to ensure that the hinge pin is not bent (refer to note #1)

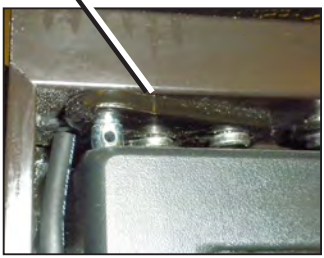
4) Inspect hold open bracket:

- Open the door to the "hold open" engagement position. The "hold open" bracket should retain the door.
- If the bracket fails to retain the door, replace the bracket and the shoulder screw.

5) If a door passes the three "open / close" tests, and there is no excessive movement at the top hinge pin, then it is highly unlikely that any components require replacement.

Key Inspection Points

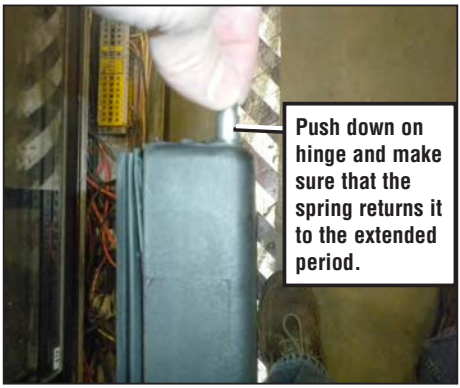
Top Hinge Plate

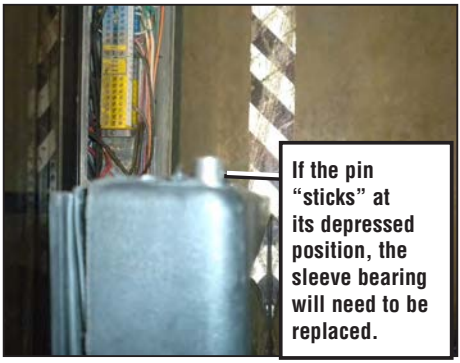


Hold Open Bracket

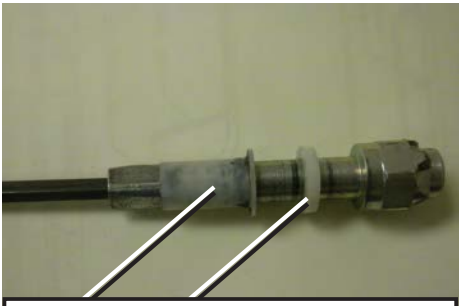
If the hinge pin sleeve bearing is damaged or worn, the hinge pin will not move freely inside the door's pin sleeve. Push down on the hinge pin, if the pin "sticks" and does not "return", the sleeve bearing will need to be replaced. The photos below are examples of a deformed sleeve bearing; however, the root cause was excessive wear on the torque rods spacer and sleeve bearing. The damage to the torque rod components was caused by external factors (prolonged high humidity or cycling the frame's anti sweat heaters). The best solution is to replace the torque rod assembly and hinge pin sleeve bearing, however, if the external factors are not addressed, this will be become a recurring problem.

Below is an example of a damaged sleeve bearing. The compromised torque rod components caused the door to "seat" below its designed parameter. Because the door has essentially been lowered, it causes the sleeve bearing to deform. In scenario above, we recommend replacing the torque rod assembly; however, the hinge pin sleeve bearing is a replaceable component.





Below is a 5-year-old torque rod that does NOT require maintenance. All components are intact and performing properly.



Sleeve bearing and spacer are in excellent condition.

Below is a rod that has operated for prolonged periods of time in > Type-1 conditions. This rod assembly should be replaced.

Sleeve bearing and spacer have been compromised.

⚠ WARNING

— LOCK OUT / TAG OUT —
To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

REPLACING DOORS

1. Loosen torque on door before removing the door. Wedge a screwdriver between the bottom of the door and the hinge socket, then lift the door up. This will lift the bottom hinge pin up and out of the bottom hinge socket. Hold the hinge pin with a 1/2 in. (13 mm) open end wrench to keep it from spinning out and stripping the socket. See Figure 3.

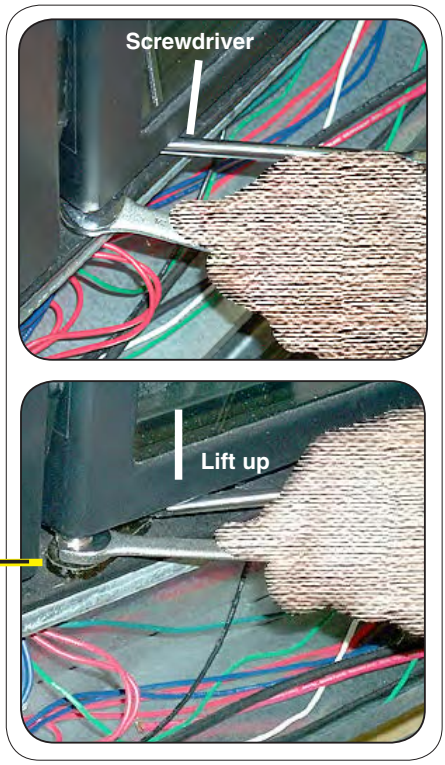


Figure 3. Loosening Torque on the Door

2. Unscrew the two #6 Phillips screws that hold the black plug into the side of the door as shown in Figure 4. Remove the plug from the door.

Figure 4. Removing Screws to Plug

3. Grasp the strain relief just below the cord and pull until the heater terminal plug comes out. See Figure 5. Note that the left end door must be opened more than 90 degrees to access the screws.

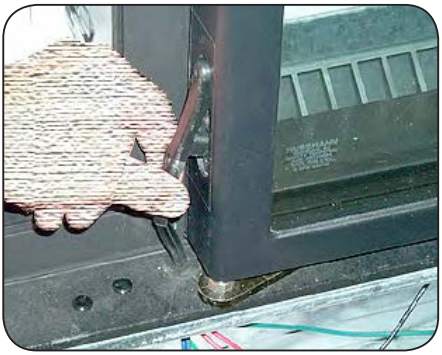


Figure 5.
Removing the Heater Terminal Plug

4. Use a flat blade screwdriver as shown in Figure 6 to lift the door retainer over the shoulder screw.

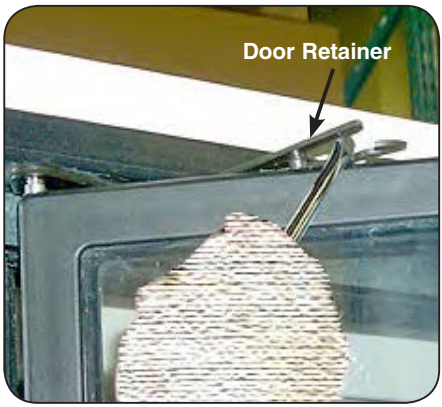


Figure 6. Removing the Door Retainer

5. Push down the top hinge pin until it clears the top socket using a flat blade screwdriver as shown in Figure 7. With finger, hold the hinge pin in the door to keep it from popping out. Tape may be used to temporarily hold the hinge pin once door is removed.

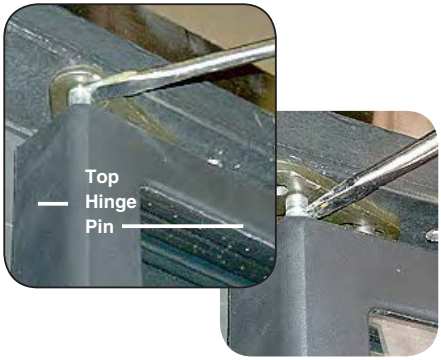


Figure 7.
Removing the Door from the Top Hinge Pin

6. Rock the door out and pull the bottom hinge pin out from the bottom socket.

7. Install the new door in reverse order.

8. Adjust the torque on the new door. If needed, adjust sag.

INNOVATOR DOOR HINGE REPLACEMENT

The following provides supplemental information for the replacement of a worn hinge pin. In addition to the hinge pin, it is recommend that the following parts be replaced.

1. Top Hinge Plate	0543783
2. Top Hinge Plate Bushing	4551267
3. Top Hinge Spring (long)	1900391
4. Top Hinge Plate Socket (black)	4550103
5. Top Hinge Plate Socket (silver)	4550103
6. Torque Rod Spacer (*see note)	4551465
7. Socket Retainer Screw	0539743

*Note: If a hinge pin is bent or worn because of improper shimming, the addition of a nylon spacer (item 7), attached to the door's torque rod, may be required.

In order to address a worn hinge pin, it is necessary to remove the door from the frame.

Note: The new hinge pin supplied with this replacement kit is longer than the existing hinge pin. These were designed to be backward compatible.

Tips for replacing the hinge pin and related components:

• Always replace components 1 through 6.

• Torque all retaining screws to 100 in-lbs.

• After removing the pin and spring, clean out any debris (nylon or metal shavings) that may be remaining in the door's "hinge pin /spring" socket.

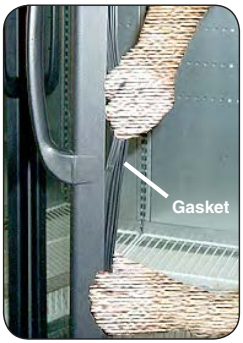
• Make sure the hinge pin bushing (4551267) is installed onto the hinge pin (0453783)

• If the hinge pin is bent, it's because the pin is rotating on its shaft instead of the top bell. This is most likely caused by improper shimming. To correct the issue, order the torque rod spacer (item 7) along with parts 1 through 6.

REPLACING MAGNETIC GASKET

Carefully remove the old gasket from the groove in the back of the door, Figure 9.

The new gasket will be easier to work with if it is at ambient temperature. Begin by lubricating the new gasket with a mild soap and water solution.



Work from the corners to the centers of each side, top and bottom. Carefully push the new gasket into the groove at each corner, refer to Figure 10(A). Then, push the gasket into the channel at the center of the top, bottom and each side, Figure 10(B). Avoid stretching the gasket.

Sub-divide remaining areas and push the gasket in at those points, Figure 10(C).

Sub-divide once again and repeat pushing the gasket in until all of the gasket is evenly seated in the groove, Figure 10(D).

Use a soft cloth or paper towels to dry the gasket before closing door on clean door frame.

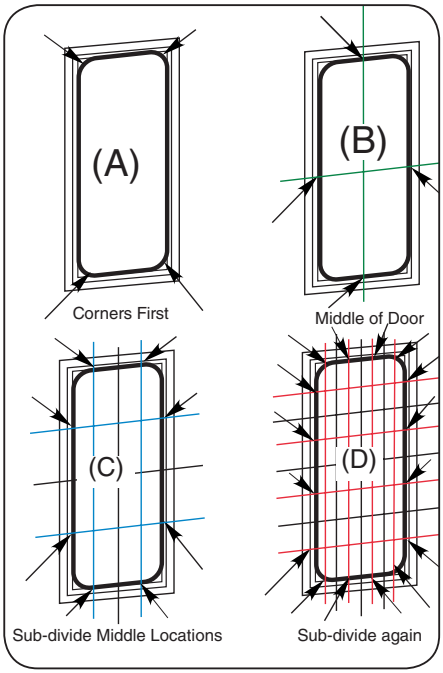


Figure 10.
Sequence for Installing New Gasket

RESTORING GASKET SEAL

Occasionally, a crimped or damaged gasket can cause gaps in the seal (Figure 11), leading to frost formation on the doors. Use this procedure to close gaps and end frost formation on doors.

Figure 11.
Improperly Installed or Damaged Gasket

Locate Gaps

Normally, interior case lighting will provide enough light to see gaps. In some cases, the only way to see gaps is to provide a backlight as shown in Figure 12(A). Backlight the door mullion and look for places the light shines between the door and gasket, Figure 12(B).

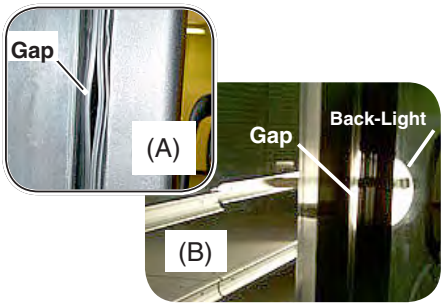


Figure 12. Back-Lighting Gaps in Gasket

Heat the Gasket

Make sure the door is closed. Beginning at the top of the gap, use a heat gun or electric hair dryer (1500-1600 watt) to heat the gasket with a constant up and down motion.

IMPORTANT: If a gap runs the entire length of the door, heat the area 4 in. (100 mm) above and 8 in. (200 mm) below the top-most point where the gap starts and work in 12 in. (300 mm) increments.

If the gasket becomes shiny, remove heat immediately as this is an indication that the gasket is near the melting point.

If possible, direct the hot air onto the gasket and also through the gap between the gasket and mullion. This will help to heat both sides of the gasket. Refer to Figure 13(A) and (B).

As the gasket softens and becomes pliable, the magnet in the gasket should pull it across the gap. As the gap closes, move heat down to create a zippering effect as shown in Figure 14.

If the gasket is not pulled across the gap by the magnet, reach around the mullion (from the inside) and pull the gasket skirt toward the mullion.

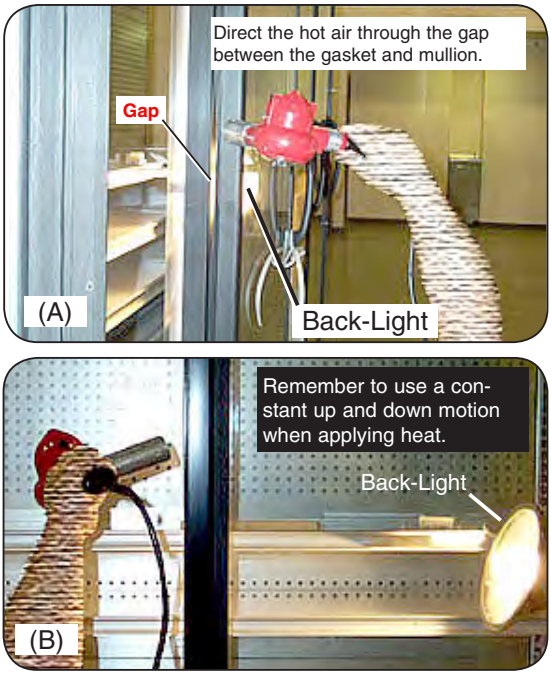


Figure 13. Applying Heat to Gasket

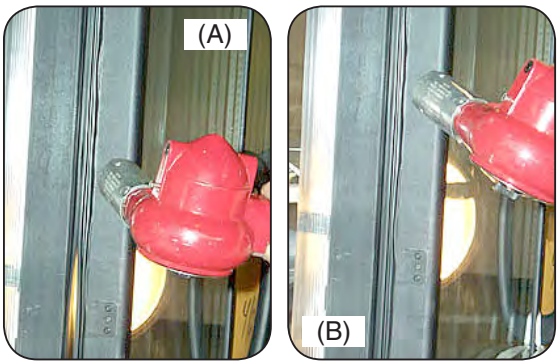


Figure 14. Zipper Effect

As shown in Figure 15, this can also be accomplished by pushing the magnet across the gap from the outside with a pencil or other non-heat conducting material.

Figure 15. Pulling Gasket Into Place With a Pencil

On doors where the gap is against an end, top, or bottom mullion, this process can still be done; however, the heat will need to be directed between the lip of the mullion and the edge of the door. It will work in the same fashion but the back-light shining through and showing on the mullion will have to be a guide as to the position of the gasket.

Cool the Gasket

Once the gap is closed, remove the heat and allow the gasket to cool, undisturbed, for 3 to 5 minutes. As the gasket cools, it will set permanently in this new shape.

Once the gasket is cool to the touch, open the and close the door. Verify that the gasket seals. If not, repeat the process. If the gasket rolls it must be replaced.

Use a soft cloth or paper towels, and a mild soap and water solution to thoroughly clean the gasket. Dry the gasket completely with a fresh cloth or paper towels before closing the door on a clean door frame.

DOOR HANDLE REPLACEMENT

Carefully pull the magnetic gasket out of the groove nearest the handle to expose the mounting screws as shown in Figure 16. Remove the screws and replace the handle. After reinstalling screws, carefully push gasket back into groove. If needed, use a mild soap and water solution to lubricate the gasket. Clean and dry the gasket to complete the door handle replacement.

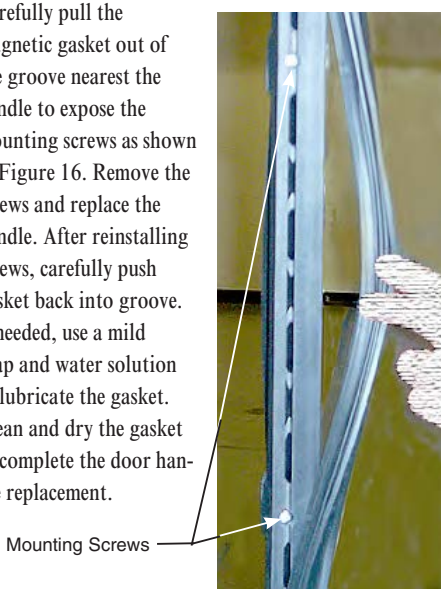


Figure 16. Replacing Door Handle

FRAME HEATER REPLACEMENT

Always turn off power to the case before working on any electrical components. The old wireway covers must be removed to access the door frame heaters. Begin by inserting a putty knife into the groove between the wireway cover and fiberglass frame, about an inch (25 mm) away from joints in the frame as shown in Figure 17(A). Carefully begin to pry off the cover.

As shown in Figure 17(B), use a second putty knife or flat head screwdriver to hold up the cover. Pry the remainder of the section up, using putty knife only, until the entire cover is off and the frame heater inside the door frame is exposed.

⚠ WARNING

— LOCK OUT / TAG OUT —
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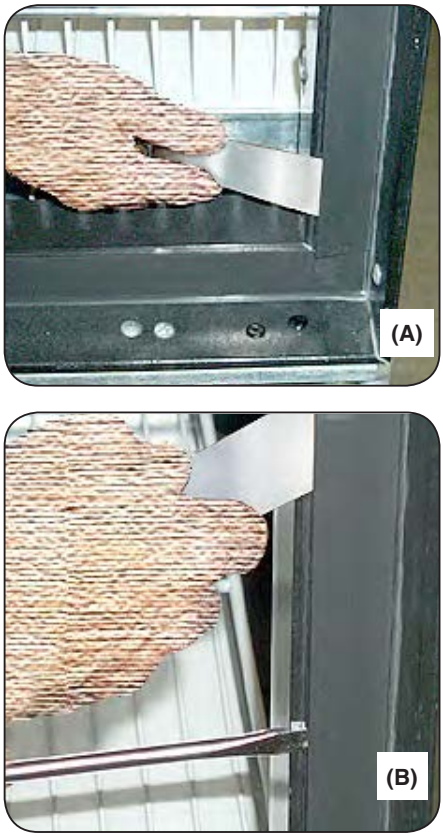


Figure 17. Removing Door Wireway Covers

Door frame heaters shown in Figure 18 may now be replaced.

During installation, the white portion of the heater should not come in contact with itself. The heater should be installed so that only one white portion of the wire enters the raceway. The other portion entering the raceway will be the black lead wire.

Once the heater wire is connected, check resistance (ohm reading) before replacing wireway covers. This will ensure that heater wire was not broken during installation. Wiring diagrams are shown in Figure 19. After covers are reinstalled, turn power on and verify that heaters are working properly.

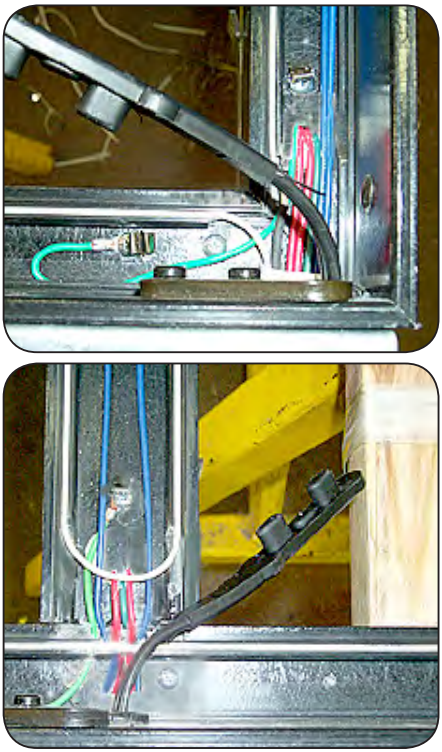
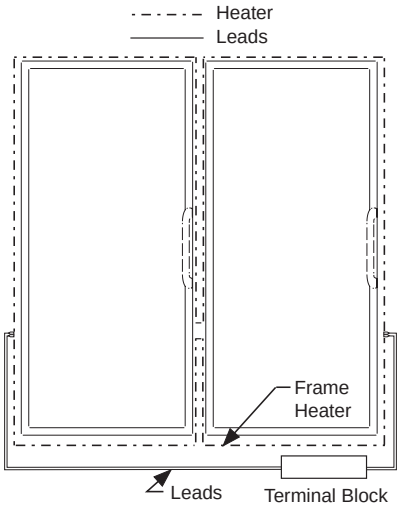
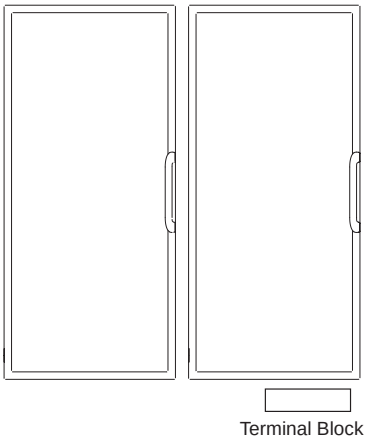


Figure 18. Replacing Door Frame Heaters



Typical Low Temperature Frames



Typical Medium Temperature Frames

Figure 19. Heater Harness Wiring Diagram

DASH Controller

The Door Anti Sweat Heater (DASH) controller is designed for conservation of energy by reducing power consumption of the glass door frame assemblies.

The control consists of three components: a control module located in the raceway, a combination temperature and %RH sensor mounted in the door mullion and an interconnecting cable. All three components are factory installed in the frame assembly.

The glass anti-condensate heaters are under the control of a microprocessor, which eliminates operator adjustment and guarantees maximum energy savings. The sensor detects product loading as well as peak shopping to optimize clearing time.

The control switches a maximum load of 5 amps which allows the control to be applied to one to five door frame assemblies. Each is equipped with its own control/sensor.

Operating Ambient: –20 to +100 deg F
Input Voltage: 100 to 250 VAC

Door Heater Control Components

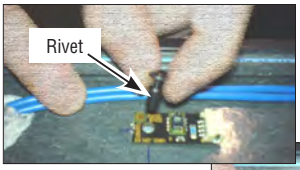
Sequence of Operation

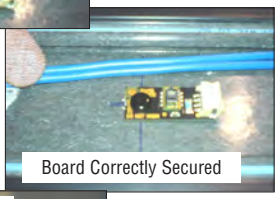
Normal Operation

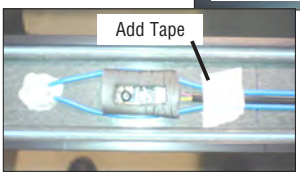
1. Power up.
2. Heater output on for 10 sec.
3. Read Temperature and %RH.
4. Calculate % On-Time of 10 Second period.
5. Output calculated duty cycle over 10 seconds.
6. Repeat Steps 3 through 5.

Failure Mode Operation

Lost or Erratic Sensor Readings
Action: 100% On
95%RH <Sensor Values <10%RH
Action: 100% On
85°F<Sensor Values < 40°F
Action: 100% On







1. Remove the mullion cover between the pair of doors where the sensor is located.

Sensor Board

2. A plastic rivet holds the sensor board securely through a hole in one end.

Harness

3. The harness has connectors at each end. Push one end of the harness onto the sensor board.
4. Position the sensor board gasket around the board and over the harness. Route lamp wiring around the gasket.
5. Important: Verify the sensor board perimeter is completely sealed. Use electrical tape to hold wiring in position at the center of the mullion. This will avoid damage when replacing the cover.

Sensor Control Box

6. The control box is mounted to the ballast tray with #8 x 3/8 sheet metal screws.
7. Connect the sensor harness to the control box.

Door Heater Harness

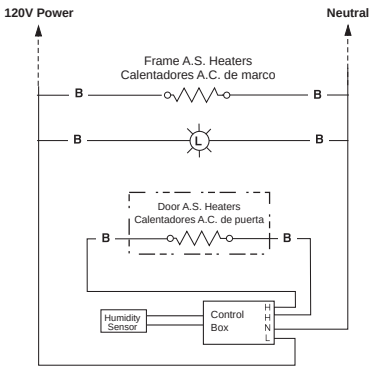
8. Connect the insulated male connectors of the door heater harness to the sensor control box. Pins are marked.

Power Connection

9. Connect the insulated male connectors for line power and neutral to the sensor control box. Pins are marked.

Finish

10. Check that all wiring is secure within the mullion and frame, then replace covers.
11. Restore power.
12. Verify controller is cycling the anti-condensate door heaters.



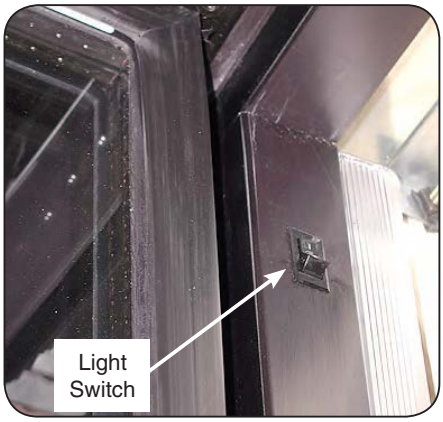
Wiring Diagram for Controller

REFER TO HUSSMANN DOCUMENT P/N 2402799 FOR MORE DETAIL.

ECOSHINE II & ECOSHINE II PLUS LED FIXTURE

EcoShine II LED (light emitting diode) lights work well for dimming or on/off operation using an occupancy sensor (optional kits). They can be turned on and off in a cold environment with no warm-up time and no negative impact on lamp life.

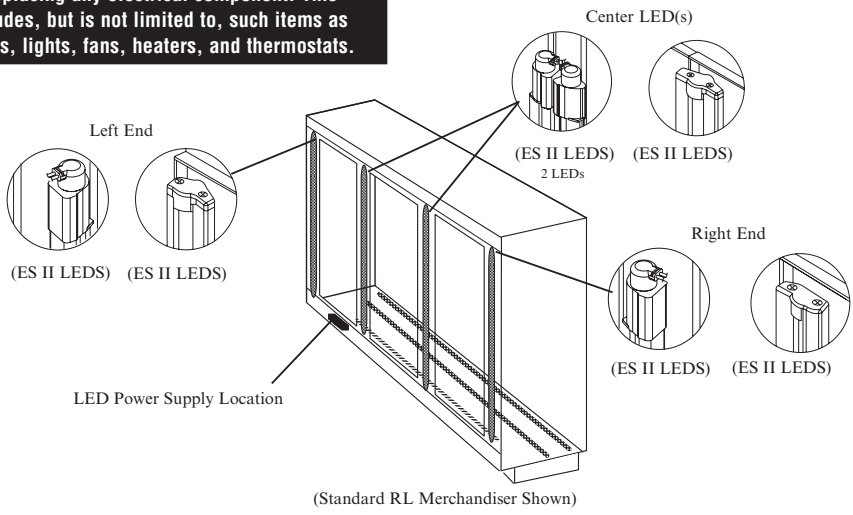
Hussmann EcoShine II LED light fixtures normally perform for up to 50,000 hours. That is 5.7 years of continuous, 24 hour operation.



⚠ WARNING

— LOCK OUT / TAG OUT —

To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.



(Standard RL Merchandiser Shown)

LED FIXTURE REPLACEMENT

1. Remove product from the merchandiser, and store at appropriate temperature.

2. Remove the wire racks from the case. Store them out of the way of customers and store personnel.

3. Turn the light switch to OFF. The switch is located inside the case on the door mullion.

4. Lock out and tag out the circuit breaker for the lighting circuit of the case where the LED fixtures are installed.

5. Disconnect fixture wiring at wire nuts. Tag case wiring with color of fixture wire color connected. LED lighting is polarity sensitive.

LED light fixtures are polarity sensitive. The power supply positive wire must be electrically connected to the red wires of the LED fixture. The power supply negative wire must be connected electrically to the black wires. See Wiring Diagrams beginning on Page 17.

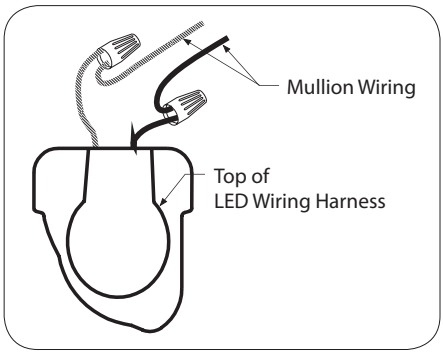
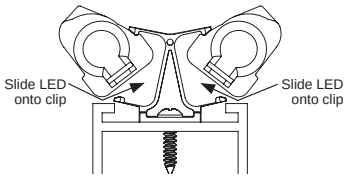
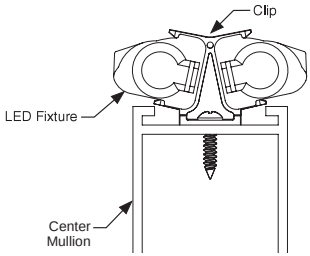


Figure 20. Disconnect Wiring
(End Fixture Shown)

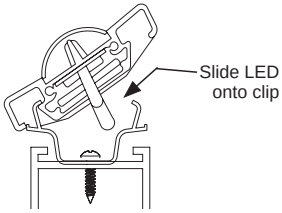


Installing Center Light Fixture into Clip

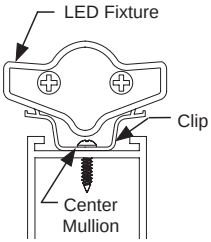


Light Fixture Properly Installed in Clip

EcoShine II



Installing Center Light Fixture into Clip



Installing Center Light Fixture into Clip

EcoShine II Plus

6. Remove fixture:
Center LED light fixtures are installed in pairs.

(A) The fixtures are held in the mullions with plastic clips. Gently twist the light fixture in the opposite direction until it pops off the mounting clip.

(B) Continue to support the fixture while repeating the process for all remaining clips.

(C) Each EcoShine LED fixture is shipped with a protective film over the lens. Be sure to remove this film.

7. Install replacement LED fixture.

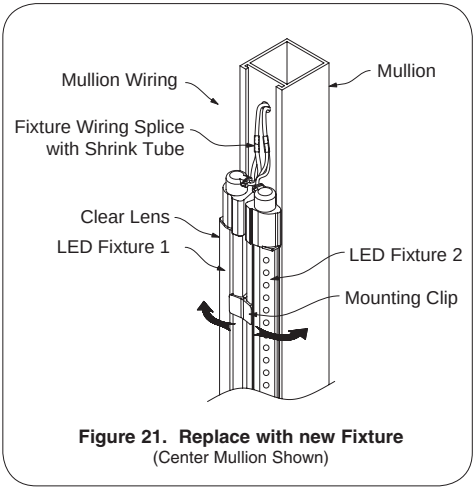


Figure 21. Replace with new Fixture
(Center Mullion Shown)

LED POWER SUPPLY REPLACEMENT

Power supplies are located in the wireway below the door frame as shown in Figure 22.

To access the wireway, remove the bumper, then remove the #8 hex head screws that hold on the front painted panel.

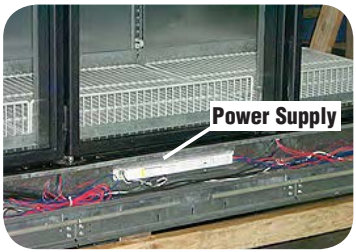


Figure 22. Power Supply Location

Part Number: 0499399 OEM
4481668 Aftermarket

WIRING COLOR CODE

Leads for all electrical circuits are identified by a colored plastic band: neutral wire for each circuit has either White insulation or a White plastic sleeve in addition to the color band.

PINK..... REFRIG. THERMOSTAT LOW TEMP.
LIGHT BLUE. REFRIG. THERMOSTAT NORM TEMP.
DARK BLUE. DEFROST TERM. THERMOSTAT
PURPLE ..... CONDENSATE HEATERS
BROWN ..... FAN MOTORS
GREEN*..... GROUND

ORANGE OR TAN ..... LIGHTS
MAROON .. RECEPTACLES
YELLOW ... DEFROST HEATERS 120V
RED ..... DEFROST HEATERS 208V

***EITHER COLORED SLEEVE OR COLORED INSULATION**

ELECTRICIAN NOTE: Use copper conductor wire only.
CASE MUST BE GROUNDED

THESE ARE MARKER COLORS WIRES MAY VARY.

EcoShine II — LED Light Specifications

	Hussmann Part Number	Description	Energy Watts (DC) Per Fixture	Energy Watts (AC) Per Door	CRI Rating (typical)	Length (inches)	Efficacy (Lumens/ Watts) Nominal
Warm Neutral	0530523	EcoShine II Reach-In / Walk-In 3500K 48 in.	6.6	7.7	85	48.5	65
	0530526	EcoShine II Reach-In / Walk-In 3500K 56 in.	7.7	9.0	85	55.1	65
	0530529	EcoShine II Reach-In / Walk-In 3500K 62 in.	8.2	9.5	85	59.5	65
	0530532	EcoShine II Reach-In / Walk-In 3500K 68 in.	9.4	10.9	85	66.1	65
	0530538	EcoShine II Reach-In / Walk-In 3500K 72 in.	10.0	11.6	85	70.4	65
	0530535	*EcoShine II Reach-In / Walk-In CS 3500K 68 in.	9.4	10.9	85	66.1	65
	0530541	*EcoShine II Reach-In / Walk-In CS 3500K 72 in.	10.0	11.6	85	70.4	65
Neutral White	0530524	EcoShine II Reach-In / Walk-In 4000K 48 in.	6.6	7.7	85	48.5	65
	0530527	EcoShine II Reach-In / Walk-In 4000K 56 in.	7.7	9.0	85	55.1	65
	0530530	EcoShine II Reach-In / Walk-In 4000K 62 in.	8.2	9.5	85	59.5	65
	0530533	EcoShine II Reach-In / Walk-In 4000K 68 in.	9.4	10.9	85	66.1	65
	0530539	EcoShine II Reach-In / Walk-In 4000K 72 in.	10.0	11.6	85	70.4	65
	0530536	*EcoShine II Reach-In / Walk-In CS 4000K 68 in.	9.4	10.9	85	66.1	65
	0530542	*EcoShine II Reach-In / Walk-In CS 4000K 72 in.	10.0	11.6	85	70.4	65
Cool White	0530525	EcoShine II Reach-In / Walk-In 5000K 48 in.	6.6	7.7	85	48.5	65
	0530528	EcoShine II Reach-In / Walk-In 5000K 56 in.	7.7	9.0	85	55.1	65
	0530531	EcoShine II Reach-In / Walk-In 5000K 62 in.	8.2	9.5	85	59.5	65
	0530534	EcoShine II Reach-In / Walk-In 5000K 68 in.	9.4	10.9	85	66.1	65
	0530540	EcoShine II Reach-In / Walk-In 5000K 72 in.	10.0	11.6	85	70.4	65
	0530537	*EcoShine II Reach-In / Walk-In CS 5000K 68 in.	9.4	10.9	85	66.1	65
	0530541	*EcoShine II Reach-In / Walk-In CS 5000K 72 in.	10.0	11.6	85	70.4	65

* For walk-in close spacing placement. The light source for close spaced walk-in lights is visible.
EcoShine II and EcoShine II Plus LED lights are covered by a 5 year limited parts and labor warranty.
See Hussmann warranty policy for additional details.
Color Temperature:
Color temperature is measured in kelvins (K). Higher color temperatures produce bright, white light hues. Cool White (5000K) has the brightest white hue. Neutral White (4000K) has a cooler hue than Warm Neutral (3500K).

EcoShine II Plus — LED Light Specifications

	Hussmann Part Number	Description	Energy Watts (DC) Per Fixture	Energy Watts (AC) Per Door	CRI Rating (typical)	Length (inches)	Efficacy (Lumens/ Watts) Nominal
WARM NEUTRAL	0523418	EcoShine II Plus Reach-In / Walk-In 3500K 48 in. Center	12.3	14.9	80	48	60
	0523419	EcoShine II Plus Reach-In / Walk-In 3500K 48 in. RH End	7.4	14.9	80	48	60
	0524581	EcoShine II Plus Reach-In / Walk-In 3500K 48 in. LH End	7.4	14.9	80	48	60
	0526984	EcoShine II Plus Reach-In / Walk-In 3500K 54 in. Center	14.85	18	80	54	60
	0526985	EcoShine II Plus Reach-In / Walk-In 3500K 54 in. RH End	8.8	18	80	54	60
	0526986	EcoShine II Plus Reach-In / Walk-In 3500K 54 in. LH End	8.8	18	80	54	60
	0523422	EcoShine II Plus Reach-In / Walk-In 3500K 62 in. Center	16.5	20.0	80	60.75	60
	0523423	EcoShine II Plus Reach-In / Walk-In 3500K 62 in. RH End	10.1	20.0	80	60.75	60
	0524583	EcoShine II Plus Reach-In / Walk-In 3500K 62 in. LH End	10.1	20.0	80	60.75	60
	0523426	EcoShine II Plus Reach-In / Walk-In 3500K 68 in. Center	16.5	20.0	80	67.5	60
	0523427	EcoShine II Plus Reach-In / Walk-In 3500K 68 in. RH End	10.1	20.0	80	67.5	60
	0524585	EcoShine II Plus Reach-In / Walk-In 3500K 68 in. LH End	10.1	20.0	80	67.5	60
NEUTRAL WHITE	0523420	EcoShine II Plus Reach-In / Walk-In 4000K 48 in. Center	12.3	14.9	80	48	60
	0523421	EcoShine II Plus Reach-In / Walk-In 4000K 48 in. RH End	7.4	14.9	80	48	60
	4442005	EcoShine II Plus Reach-In / Walk-In 4000K 48 in. LH End	7.4	14.9	80	48	60
	0526987	EcoShine II Plus Reach-In / Walk-In 4000K 54 in. Center	14.85	18	80	54	60
	0526988	EcoShine II Plus Reach-In / Walk-In 4000K 54 in. RH End	8.8	18	80	54	60
	0526989	EcoShine II Plus Reach-In / Walk-In 4000K 54 in. LH End	8.8	18	80	54	60
	0524582	EcoShine II Plus Reach-In / Walk-In 4000K 62 in. Center	16.5	20.0	80	60.75	60
	0523424	EcoShine II Plus Reach-In / Walk-In 4000K 62 in. RH End	10.1	20.0	80	60.75	60
	0523425	EcoShine II Plus Reach-In / Walk-In 4000K 62 in. LH End	10.1	20.0	80	60.75	60
	0524584	EcoShine II Plus Reach-In / Walk-In 4000K 68 in. Center	16.5	20.0	80	67.5	60
	0523428	EcoShine II Plus Reach-In / Walk-In 4000K 68 in. RH End	10.1	20.0	80	67.5	60
	0523429	EcoShine II Plus Reach-In / Walk-In 4000K 68 in. LH End	10.1	20.0	80	67.5	60
	0523430	EcoShine II Plus Reach-In / Walk-In 4000K 72 in. Center	24.4	29.5	80	71	60
	0523431	EcoShine II Plus Reach-In / Walk-In 4000K 72 in. RH End	14.7	29.5	80	71	60
	0524587	EcoShine II Plus Reach-In / Walk-In 4000K 72 in. LH End	14.7	29.5	80	71	60
COOL WHITE	0526981	EcoShine II Plus Reach-In / Walk-In 5000K 48 in. Center	12.3	14.9	80	48	60
	0526982	EcoShine II Plus Reach-In / Walk-In 5000K 48 in. RH End	7.4	14.9	80	48	60
	0526983	EcoShine II Plus Reach-In / Walk-In 5000K 48 in. LH End	7.4	14.9	80	48	60
	0526990	EcoShine II Plus Reach-In / Walk-In 5000K 54 in. Center	14.85	18	80	54	60
	0526991	EcoShine II Plus Reach-In / Walk-In 5000K 54 in. RH End	7.4	18	80	54	60
	0526992	EcoShine II Plus Reach-In / Walk-In 5000K 54 in. LH End	7.4	18	80	54	60
	0526813	EcoShine II Plus Reach-In / Walk-In 5000K 62 in. Center	16.5	20	80	60.75	60
	0526814	EcoShine II Plus Reach-In / Walk-In 5000K 62 in. RH End	10.1	20	80	60.75	60
	0526815	EcoShine II Plus Reach-In / Walk-In 5000K 62 in. LH End	10.1	20	80	60.75	60
	0523551	EcoShine II Plus Reach-In / Walk-In 5000K 68 in. Center	16.5	20.0	80	67.5	60
	0523552	EcoShine II Plus Reach-In / Walk-In 5000K 68 in. RH End	10.1	20.0	80	67.5	60
	0524589	EcoShine II Plus Reach-In / Walk-In 5000K 68 in. LH End	10.1	20.0	80	67.5	60
	0523432	EcoShine II Plus Reach-In / Walk-In 5000K 72 in. Center	24.4	29.5	80	71	60
	0523433	EcoShine II Plus Reach-In / Walk-In 5000K 72 in. RH End	14.7	29.5	80	71	60
	0524588	EcoShine II Plus Reach-In / Walk-In 5000K 72 in. LH End	14.7	29.5	80	71	60

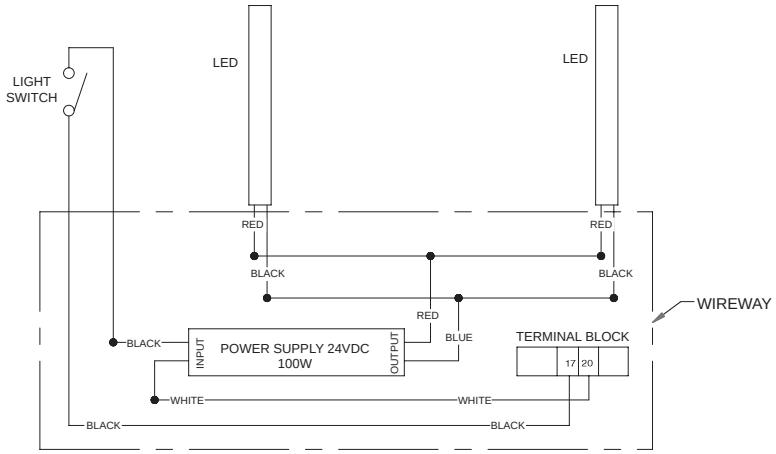
EcoShine II and EcoShine II Plus LED lights are covered by a 5 year limited parts and labor warranty.
See Hussmann warranty policy for additional details.

Color Temperature:
Color temperature is measured in kelvins (K).
Higher color temperatures produce bright, white light hues. Cool White (5000K) has the brightest white hue.
Neutral White (4000K) has a cooler hue than Warm Neutral (3500K).

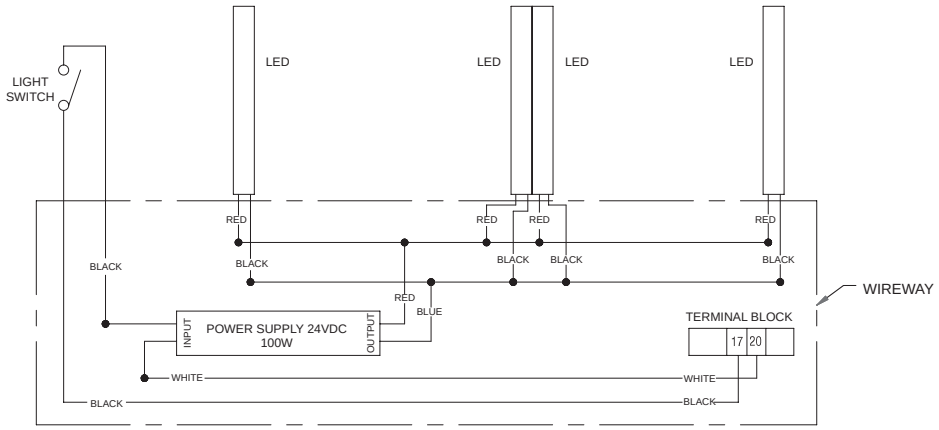
WIRING DIAGRAMS for LED LAMPS

Wiring diagrams are shown below for the 1-Door and 2-Door merchandisers with 60 in. or 67 in. doors and EcoShine or EcoShine II LEDs.

Wiring diagrams for other models are on the following pages.

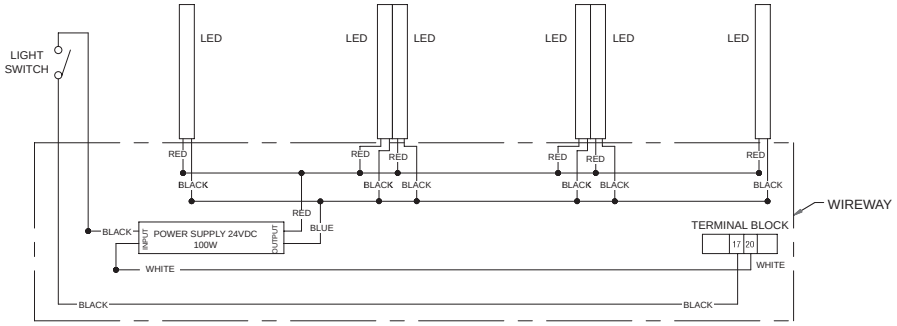


1 DOOR LED LIGHT WIRING DIAGRAM

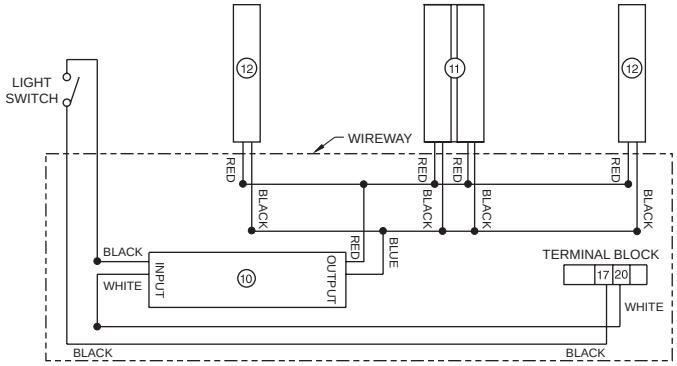


2 DOOR LED LIGHT WIRING DIAGRAM

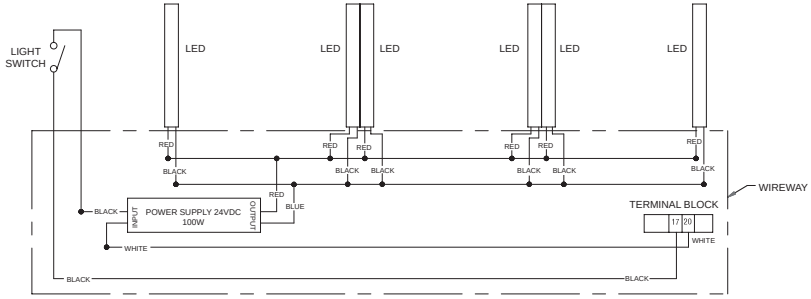
Wiring diagrams are shown below for RLNIE merchandisers with 60 in. EcoShine II LEDs.



3 DOOR LED LIGHT WIRING DIAGRAM

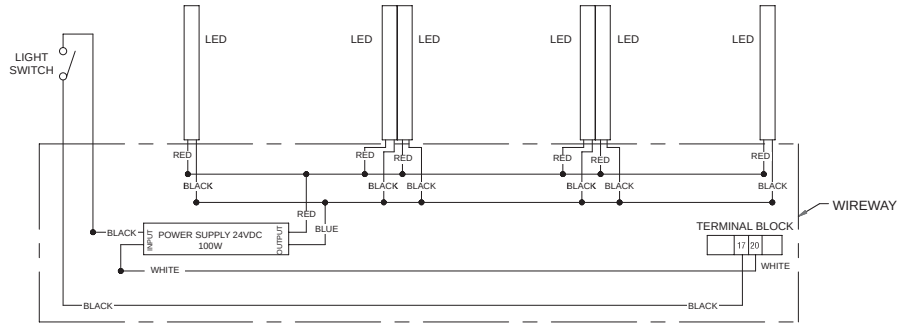


2 DOOR END COMPARTMENT LED LIGHT WIRING DIAGRAM

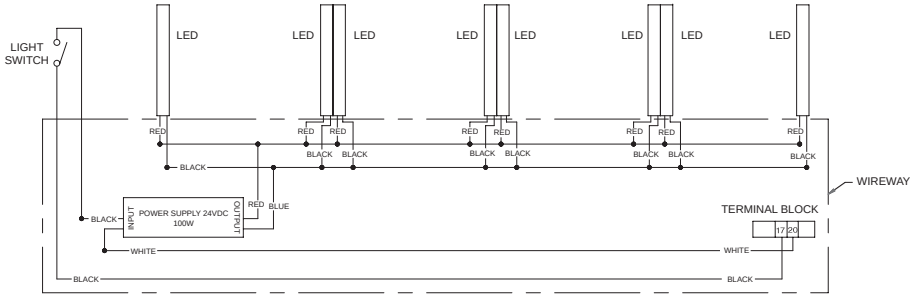


3 DOOR LH SIDE COMPARTMENT LED LIGHT WIRING DIAGRAM

Wiring diagrams are shown below for 3-door and 4-door merchandisers with 60 in. and 67 in. EcoShine II LEDs.

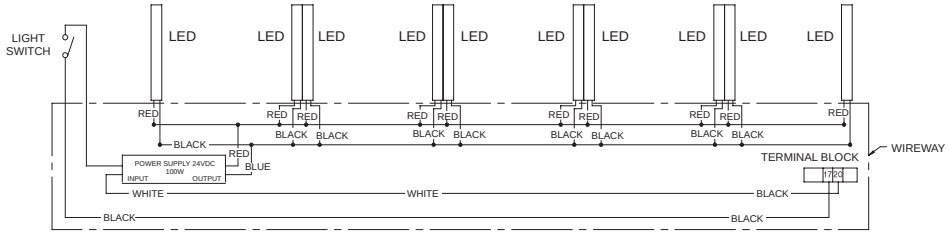


3 DOOR LED LIGHT WIRING DIAGRAM



4 DOOR LED LIGHT WIRING DIAGRAM

Wiring diagrams are shown below for 5-door merchandisers with 60 in. and 67 in. Ecoshine II LEDs



5 DOOR LED LIGHT WIRING DIAGRAM ECOSHINE II

Replacement Parts List (Doors)

Description	Mfg Part No.
Door–Innovator –Med Temp Black Lh	0425617
Door–Innovator –Med Temp Black Rh	0425618
Door–Innovator –Med Temp Gray Lh	0425619
Door–Innovator –Med Temp Gray Rh	0425620
Door–Innovator –Med Temp 311 Oyster Lh	N/A
Door–Innovator –Med Temp 311 Oyster Rh	N/A
Door–Innovator –Low Temp Black Lh — Standard	0522314
Door–Innovator –Low Temp Black Rh — Standard	0522315
Door–Innovator –Low Temp Gray Lh — Standard	0522316
Door–Innovator –Low Temp Gray Rh — Standard	0522317
Door–Innovator –Low Temp Black Lh — RLT	0522571
Door–Innovator –Low Temp Black Rh — RLT	0522572
Door–Innovator –Low Temp Gray Lh — RLT	0522573
Door–Innovator –Low Temp Gray Rh — RLT	0522574
Door–Innovator –Low Temp Oyster Lh — RLT	N/A
Door–Innovator –Low Temp Oyster Rh — RLT	N/A

Parts List (Continued)

Description	Mfg Part No.
Door–Innovator Always*Clear™ Black Lh — Standard	0522318
Door–Innovator Always*Clear™ Black Rh — Standard	0522319
Door–Innovator Always*Clear™ Gray Lh — Standard	0522320
Door–Innovator Always*Clear™ Gray Rh — Standard	0522321
Door–Innovator Always*Clear™ Black Lh — RLT	0522575
Door–Innovator Always*Clear™ Black Rh — RLT	0522576
Door–Innovator Always*Clear™ Gray Lh — RLT	0522577
Door–Innovator Always*Clear™ Gray Rh — RLT	0522578
Door–Innovator II Black Lh	0440469
Door–Innovator II Black Rh	0440470
Door–Innovator II Gray Lh	0440471
Door–Innovator II Gray Rh	0440472
Door–Innovator II 311 Pearl Lh	0441635
Door–Innovator II 311 Pearl Rh	0441636
Door–Innovator II Black Lh — Standard	0458383
Door–Innovator II Black Rh — Standard	0458384
Door–Innovator II Gray Lh — Standard	0458457
Door–Innovator II Gray Rh — Standard	0458458

Note: Innovator II Doors are not available for RLT

Door–Innovator III–Med Temp Black Lh	0519946
Door–Innovator III–Med Temp Black Rh	0519947
Door–Innovator III–Med Temp Gray Lh	0519948
Door–Innovator III–Med Temp Gray Rh	0519949
Door–Innovator III–Med Temp 311 Oyster Lh	N/A
Door–Innovator III–Med Temp 311 Oyster Rh	N/A
Door–Innovator III–Low Temp Black Lh — Standard	0510183
Door–Innovator III–Low Temp Black Rh — Standard	0510184
Door–Innovator III–Low Temp Gray Lh — Standard	0519934
Door–Innovator III–Low Temp Gray Rh — Standard	0519935

Parts List (Continued)

Description	Mfg Part No.
Door–Innovator III–Low Temp Black Lh — RLT	0519940
Door–Innovator III–Low Temp Black Rh — RLT	0519941
Door–Innovator III–Low Temp Gray Lh — RLT	0522140
Door–Innovator III–Low Temp Gray Rh — RLT	0522141
Door–Innovator III–Low Temp Oyster Lh — RLT	N/A
Door–Innovator III–Low Temp Oyster Rh — RLT	N/A
Door–Innovator III–Always*Clear™ Black Lh — Standard	0519936
Door–Innovator III–Always*Clear™ Black Rh — Standard	0519937
Door–Innovator III–Always*Clear™ Gray Lh — Standard	0519938
Door–Innovator III–Always*Clear™ Gray Rh — Standard	0519939
Door–Innovator III–Always*Clear™ Black Lh — RLT	0519942
Door–Innovator III–Always*Clear™ Black Rh — RLT	0519943
Door–Innovator III–Always*Clear™ Gray Lh — RLT	N/A
Door–Innovator III–Always*Clear™ Gray Rh — RLT	N/A
Door–Innovator III–Med Temp Black Lh — RMT	0522130
Door–Innovator III–Med Temp Black Rh — RMT	0522131
Door–Innovator III–Med Temp Gray Lh — RMT	0522150
Door–Innovator III–Med Temp Gray Rh — RMT	0522151
Door–Innovator III–Med Temp 311 Oyster Lh — RMT	N/A
Door–Innovator III–Med Temp 311 Oyster Rh — RMT	N/A

Parts List (Continued)

Description	Mfg Part No.
Bushing–Bottom Hinge Pin	0428547
Bushing–Top Hinge Pin	0428548
Clip-Mounting LED Fixture, Center (REPLACEMENT)	0492686
Clip-Mounting LED Fixture, End (REPLACEMENT)	0492687
Clip–Mullion Diffuser	0428595
Clip–SPN 5 Strain Relief	0432602
Closer–Door Lh — Standard 65-inch Door	0428627
Closer–Door Rh — Standard 65-inch Door	0428628
Closer–Door Lh — RLT 75-inch Door	0454328
Closer–Door Rh — RLT 75-inch Door	0454329
Cover–Wireway 2 Door Top Lh Black (Bottom Rh)	0428566
Cover–Wireway 2 Door Top Lh Gray (Bottom Rh)	0428575
Cover–Wireway 2 Door Top Lh 311 Pearl (Bottom Rh)	0442048
Cover–Wireway 2 Door Top Rh Black (Bottom Lh)	0428567
Cover–Wireway 2 Door Top Rh Gray (Bottom Lh)	0428576
Cover–Wireway 2 Door Top Rh 311 Pearl (Bottom Lh)	0442049
Cover–Wireway 3 Door Top Lh Black (Bottom Rh)	0428568
Cover–Wireway 3 Door Top Lh Gray (Bottom Rh)	0428577
Cover–Wireway 3 Door Top Lh 311 Pearl (Bottom Rh)	0442088
Cover–Wireway 3 Door Top Rh Black (Bottom Lh)	0428569
Cover–Wireway 3 Door Top Rh Gray (Bottom Lh)	0428578
Cover–Wireway 3 Door Top Rh 311 Pearl (Bottom Lh)	0442089
Cover–Wireway 4 & 5 Door Top Lh Black (Bottom Rh)	0428570
Cover–Wireway 4 & 5 Door Top Lh Gray (Bottom Rh)	0428579
Cover–Wireway 4 & 5 Door Top Lh 311 Pearl (Bottom Rh)	0442094

Parts List (Continued)

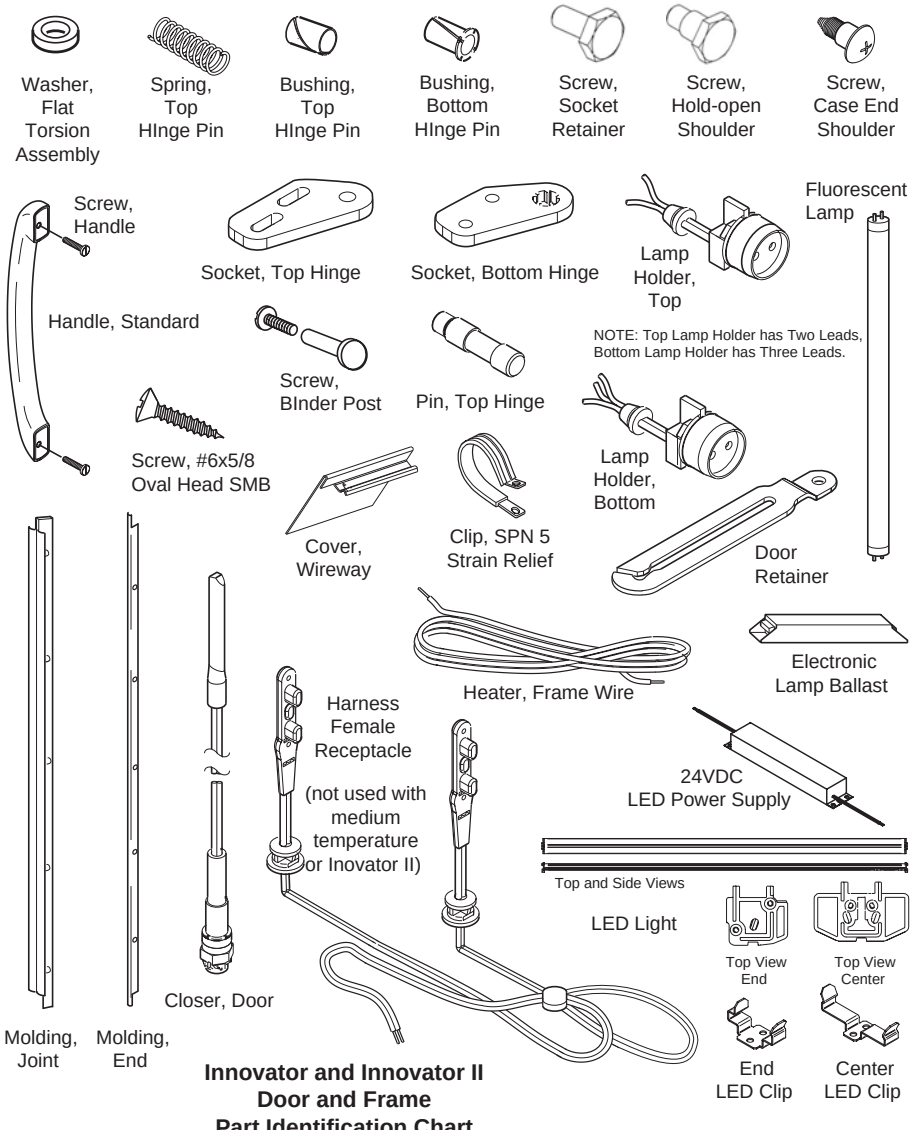
Description	Mfg Part No.
Cover–Wireway 4 & 5 Door Top Rh Black (Bottom Lh)	0428571
Cover–Wireway 4 & 5 Door Top Rh Gray (Bottom Lh)	0428580
Cover–Wireway 4 & 5 Door Top Rh 311 Pearl (Bottom Lh)	0442095
Cover–Wireway 5 Door Center Black	0428572
Cover–Wireway 5 Door Center Gray	0428581
Cover–Wireway 5 Door Center 311 Pearl	0442100
Cover–Wireway End Black — Standard	0428565
Cover–Wireway End Gray — Standard	0428574
Cover–Wireway End 311 Pearl — Standard	0442047
Cover–Wireway End Black — RLT	0304949
Cover–Wireway End Gray — RLT	0305004
Cover–Wireway End 311 Pearl — RLT	N/A
Cover–Wireway Mullion Black — Standard	0428564
Cover–Wireway Mullion Gray — Standard	0428573
Cover–Wireway Mullion 311 Pearl — Standard	0442046
Cover–Wireway Mullion Black — RLT	0304948
Cover–Wireway Mullion Gray — RLT	0305003
Cover–Wireway Mullion 311 Pearl — RLT	N/A
Diffuser Assembly–Left	042859
Diffuser Assembly–Mullion	0428594
Diffuser Assembly–Right	0428593
Filler–Diffuser Lh	0421028
Filler–Diffuser Mullion	0421030
Filler–Diffuser Rh	0421029

Parts List (Continued)

Description	Mfg Part No.
Gasket–Black Magnetic — Standard	0428562
Gasket–Gray Magnetic — Standard	0428563
Gasket–Black Magnetic — RLT	0461957
Gasket–Gray Magnetic — RLT	0461958
Handle–Standard Black Door	0428559
Handle–Standard Gray Door	0428561
Handle–Standard 311 Pearl Door	0441686
Harness–Door Heater 2 Door	0432596
Harness–Door Heater 3 Door	0432597
Harness–Door Heater 4 Door	0432598
Harness–Door Heater 5 Door	0432599
Harness–Female Receptacle Black	0432600
Harness–Female Receptacle Gray	0432601
Harness–Female Receptacle 311 Pearl	N/A
Harness–Opposite Swing Black	0432612
Harness–Opposite Swing Gray	0432613
Harness–Opposite Swing 311 Pearl	N/A
Heater–Frame Wire 2 Door Innovator Low Temp — Standard	0428601
Heater–Frame Wire 3 Door Innovator Low Temp — Standard	0428602
Heater–Frame Wire 4 Door Innovator Low Temp — Standard	0428603
Heater–Frame Wire 5 Door Innovator Low Temp — Standard	0428604
Heater–Frame Wire 2 Door Innovator — RLT	0458438
Heater–Frame Wire 3 Door Innovator — RLT	0458439
Heater–Frame Wire 4 Door Innovator — RLT	0458440
Heater–Frame Wire 5 Door Innovator — RLT	0458441

Parts List (Continued)

Description	Mfg Part No.
Heater–Frame Wire 2 Door Innovator II & Med Temp	0440150
Heater–Frame Wire 3 Door Innovator II & Med Temp	0440151
Heater–Frame Wire 4 Door Innovator II & Med Temp	0440152
Heater–Frame Wire 5 Door Innovator II & Med Temp	0440153
Molding–End Black — Standard	0425607
Molding–End Gray — Standard	0425609
Molding–End 311 Pearl — Standard	0442338
Molding–End Black — RLT	0456200
Molding–End Gray — RLT	0456201
Molding–End 311 Pearl — RLT	N/A
Molding–Joint Black — Standard	0425608
Molding–Joint Gray — Standard	0425610
Molding–Joint 311 Pearl — Standard	0442337
Molding–Joint Black — RLT	0456200
Molding–Joint Gray — RLT	0456201
Molding–Joint 311 Pearl — RLT	N/A
Top Hinge Plate	0543783
Top Hinge Plate Bushing	4551267
Top Hinge Spring (long)	1900391
Top Hinge Spring (short)	0543782
Top Hinge Plate Socket (black)	4550103
Top Hinge Plate Socket (silver)	4550103
Torque Rod Spacer	4551465
Socket Retainer Screw	0539743
Plug – 1/4 Button Black	0428597
Plug – 1/4 Button Gray	0428599
Plug – 1/4 Button 311 Pearl	0441687
Plug – 3/4 Button Black	0428596
Plug – 3/4 Button Gray	0428598
Plug – 3/4 Button 311 Pearl	0442937
Power Supply-100W 24VDC — LED	0499399
Retainer–Door Black	0458446
Retainer–Door Silver	0458447
Socket, Bottom Hinge	0207616
Socket, Top Hinge	0206221



Innovator and Innovator II Door and Frame Part Identification Chart

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To obtain warranty information or other support, contact your Hussmann representative. Please include the model and serial number of the product.

Hussmann Corporation, Corporate Headquarters: Bridgeton, Missouri, U.S.A. 63044-2483 01 October 2012