

FEDERAL INDUSTRIES

NEW MAXI-DELI STRAIGHT GLASS NEW MAXI-DELI CURVED GLASS

Self-Contained & Remote Models

INSTALLATION & OPERATING INSTRUCTIONS



MSG454DC
MSG454DM
MSG454DF

MSG654DC
MSG654DM
MSG654DF

MSG854DC
MSG854DM
MSG854DF

MSG1054DC
MSG1054DM
MSG1054DF

MCG454DC
MCG454DM
MCG454DF

MCG654DC
MCG654DM
MCG654DF

MCG854DC
MCG854DM
MCG854DF

MCG1054DC
MCG1054DM
MCG1054DF

KEEP THIS MANUAL FOR FUTURE REFERENCE

Engineering and technical data are subject to change without notice.

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INTRODUCTION

Thank you for purchasing a Federal Industries display case. This manual contains important instructions for installing and servicing the Maxi Deli Refrigerated Cases. A repair parts list and wiring diagrams are also included in the manual. Read all of these documents carefully before installing or servicing your case.



NOTICE

Read this manual before installing your case. Keep this manual and refer to it before doing any service on the equipment. Failure to do so could result in personal injury or damage to the case.



NOTICE

Installation and service of the electrical components in the case must be performed by a licensed electrician.

The portions of this manual covering components contain technical instructions intended only for persons qualified to perform electrical work.



DANGER

Improper or faulty hookup of electrical components in the case can result in severe injury or death.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national standards.

SERIAL NUMBER

Record the model and serial numbers of the case for easy reference. Always refer to both model and serial numbers in your correspondence regarding the case.

Case Model _____ Serial Number _____
Condensing Unit Model _____ Serial Number _____

This manual cannot cover every installation, use, or service situation. If you need additional information, call or write us:

WARRANTY/TECHNICAL SERVICE DEPARTMENT
Federal Industries
P.O. Box 290
Belleville, WI 53508
Toll Free (800) 356-4206 / WI Phone (608) 424-3331

WARNING LABELS & SAFETY INSTRUCTIONS



This is the safety-alert symbol. When you see this symbol on your case or in the manual, be alert to the potential for personal injury or damage to your equipment.

Be sure you understand all safety messages and always follow recommended precautions and safe operating procedures.



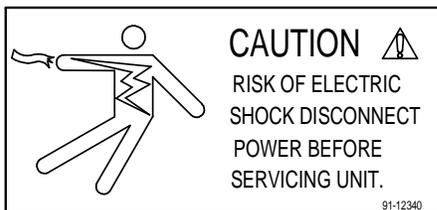
NOTICE TO EMPLOYERS

You must make sure that everyone who installs, uses, or services your case is thoroughly familiar with all safety information and procedures.

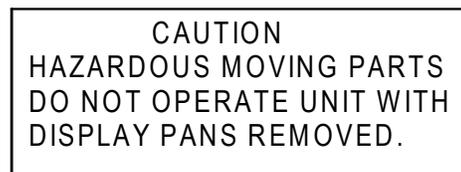
Important safety information is presented in this section and throughout the manual. The following signal words are used in the warning and safety messages:

- DANGER:** Severe injury or death **will** occur if you ignore the message.
- WARNING:** Severe injury or death **can** occur if you ignore the message.
- CAUTION:** Minor injury or damage to your case **can** occur if you ignore the message.
- NOTICE:** This is important installation, operation, or service information. If you ignore the message, you may damage your case.

The warning and safety labels shown throughout this manual are placed on your Federal Industries case at the factory. Follow all warning label instructions. If any warning or safety labels become lost or damaged, call our customer service department at 1(800) 356-4206 for replacements.



This label is located on the back of the display case and behind the left end access panel



This label is located below the display pans.

PRE-INSTALLATION PROCEDURES

Inspection For Shipping Damage

You are responsible for filing all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage is noted to shipping crates, cartons, or if a shortage is found, note this on the bill of lading (all copies) prior to signing.

If damage is discovered when the case is uncrated, immediately call the delivering truck line and follow-up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damaged item. Crating material must be retained to show the inspector from the truck line.

INSTALLATION INSTRUCTIONS

Locating The Display Case

The case should be located where it is not subjected to the direct rays of the sun, heating ducts, grills, radiator, or ceiling fans, nor should it be located near open doors or main door entrances. Also, avoid locations where there is excessive air movement or air disturbances and avoid high humidity locations such as near cases with water misting or fogging devices.

The case requires a minimum of 24" of clearance at the rear of the unit for air discharge. Do not locate case with back tight against a wall. No clearance is needed on the sides of the unit.

Removing Case From Shipping Skid

CAUTION: Do not push against the curved glass, end glass, doors, or doorframes when removing the case from the skid or moving the case. Case damage or glass breakage could result.



Move the case as near as possible to the final location before removing it from the shipping skid.

Remove the screws and brackets that secure the case to the skid.

Removing Packaging Material

Remove the brackets that held the case to the shipping skid.

Remove the shipping tape that secures the doors and lift-up glass. If it is necessary to remove tape residue from plastic materials, use cleaning compounds recommended in the cleaning section of this manual.

Leveling The Case

The case must be level for proper drainage of defrost water to the condensate evaporator or floor drain.

Check the level of the case along the front rail and along the top of the display pan. Adjust levelers (4 on 454, 6 on 654, 854, and 1054) as needed to level the case.

NOTE:

The leveled case **must** be sealed to the floor using an NSF Listed Sealant.

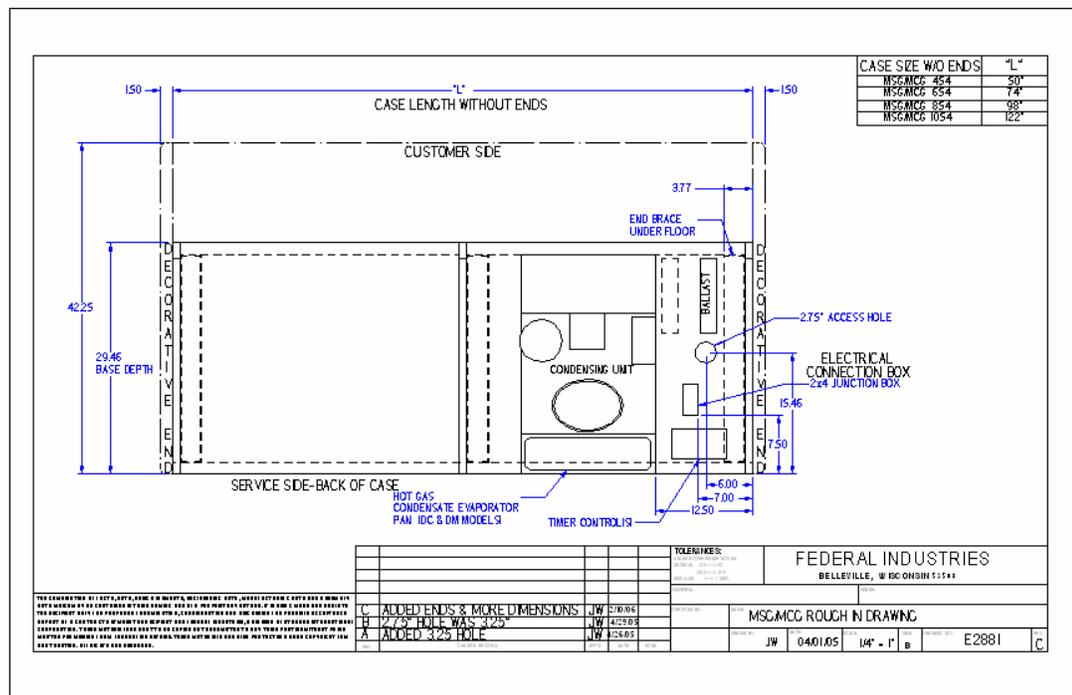
Grill Removal



DANGER: Electric shock hazard. Do not operate unit with panels removed.

The rear grill requires removal for case installation. Rear grill is secured with self-tapping machine screws.

Grill must be in place for proper operation of the case. Grill must be reinstalled after case installation.



Condensate Evaporator

NOTICE:



During normal defrost cycles, steam from the condensate evaporator may be visible around the case.

(Remotes Only With Optional Electric Condensate Evaporator Pans)

Self-contained cases (DC & DM) use a hot gas condensate evaporator.

The condensate evaporator is located behind the rear grill panel and is accessible from the rear of the case.

Make sure that the drain line has not been dislodged during shipment and that the drain terminates properly over the water reservoir.

Fish cases (DF), self-contained and remote, must have the drain line plumbed into a floor drain.

Lights

The ballasts used on this case allow removal of one or more top lights, or shelf lights if so equipped, without affecting the remaining lights.

ELECTRICAL INFORMATION & GROUNDING

This Case Must Be Grounded



DANGER: Improper or faulty hookup of electrical components in the display case can result in severe injury or death.

Only a licensed electrician must perform all case electrical connections.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national electrical standards.

A separate circuit for each display case is recommended to prevent other appliances on the same circuit from overloading the circuit and causing malfunction.

The electrical service must be grounded upon installation.

This unit is designed for permanent connection to a power source. See the electrical data plate, next to electrical junction box, for proper circuit size and wire ampacity.

The electrical field connection 2 x 4 box is accessible from the rear of the case and is located in the right (as viewed from case rear). See details below.

Defrost Timer Control

Note your new Maxi Deli unit is equipped with a 24 hr / 7 day a week digital electronic defrost timer. This timer can be programmed to turn the compressor off for a preset time to cause the coils to warm up and defrost.

The timer was factory pre-set for central time. You will need to change this for your Time Zone. **Note that the time of day must be set for the unit to operate.**

Some default defrost were also set at the factory. You need to determine if these will be sufficient for your application of the equipment. If the unit has been off for more than 5-10 days you may have lost the programming of these defaults. If you hit the reset switch at the bottom of the timer you can clear all preset defrosts.

You do need to have a time set on the clock and the I/O (on/off) set to the on position for the compressor to run. Note that this defrost timer is located behind the switch / control panel at the back of the unit. (See Photo below.) Note you may have to plug the unit in and **turn the power switch on** to charge the battery for 6 to 8 hours if the battery has completely run down. Once you have the battery in the timer charged and the clock set, the timer should maintain its programming for up to 5 days if the unit is turn off or there is a power outage.

Note that on DM's and DC's the condenser fan runs all the time. This does not mean the compressor is running. The Compressor is cycled on a timer based on the **Refrigeration Control, located** on the switch panel at the back of the case. (See Photo below.) Note that a 1 setting on this control cycles the compressor for approximately a 10 minute run time. A 5 setting on this control will be approximately a 50 minute run time. Note that the higher the setting the colder the case will get if you don't have a problem with the coils icing up. The off time is factory set to get the coils up to about 42 degrees before the time cycle re-starts.



Switch Panel (Rear of Case)

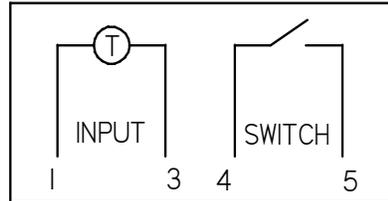
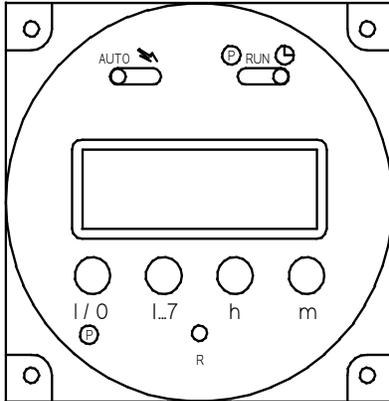


24/7 Defrost Timer (behind Switch Panel)

This 24 hr / 7 day a week digital electronic defrost timer is used to initiate defrosts to keep the evaporator coils from icing up. You need to determine what defrosts will be required throughout the week to keep the coils clear and maintain the case temperature that your application requires. Note that some ice formation and ice drips are normal on the top gravity coil.

Following are the programming instructions for the defrost timer.

This timer allows you to set up to 6 “on” and 6 “off” settings (defrosts) per day Mo thru Su.



Setting the time of day:

1. Slide the upper right switch to the right--toward the clock symbol.
2. Press the “1..7” button to confirm, and also set the correct day—located at the top of the display. Mo, Tu, We, Th, Fr, Sa, Su.
3. Press the “h” button to confirm, and also to set the hour.
4. Press the “m” button to confirm, and also set the minutes.
5. After setting up, slide the switch to the center “RUN” position-it will show the current day and set time.

Setting the switching times (defrosts):

1. Slide the upper right switch to the left-toward the “P” for program.
2. Press the “1..7” button to set the day you wish to program:
With the first push of this button: MO TU WE TH FR SA SU will appear as the full week, MO TU WE TH FR will appear at the next push of the button, SA SU will appear next, followed by the individual days.
3. Press the “I/O” button to switch from program modes (on to off) for programs 1 through 6 for each day.
4. Press the “h” button to set the hour of the day (in military time) for the defrost to begin “off” or end “on”. The “on” and “off” refer only to the compressor running “on” or in defrost “off”.
5. Press the “m” button to set the minutes for the times.
6. After setting up, slide the upper right button back to the “RUN” position.

Factory default settings are:

1 on	--:--	
1 off	1:00	Mon-Sun
2 on	2:00	Mon-Sun
2 off	4:00	Mon-Sun
3 on	5:00	Mon-Sun
3 off	14:00	Mon-Sun
4 on	14:30	Mon-Sun
4 off	--:--	
5 on	--:--	
5 off	--:--	
6 on	--:--	
6 off	--:--	

Note: You can manually turn the timer on or off by pressing the “I/O” button.

OPERATING INSTRUCTIONS

Initial Start-Up

After all the checks outlined in the installation section of this manual have been made, the case is ready to be put into service.

Turn Power and Light Switches On, and turn the refrigeration knob to 3 to allow it to run and pull down to temperature.

The Compressor is cycled on a timer based on the **Refrigeration Control**, located on the switch panel at the back of the case. Note that a 1 setting on this control cycles the compressor for approximately a 10 minute run time. A 5 setting on this control will be approximately a 50 minute run time. Note that the higher the setting the colder the case will get if you don't have a problem with the coils icing up.

Doors

Clean the door track frequently for easy door operation. A very light film of lubricant, such as PAM, will help the doors slide easily.

Light Replacement

To remove light bulb from top light or shelf light assemblies:

1. Remove plastic shield on the bottom side of light assembly.
2. Grasp bulb and push to the right, as one socket is spring-loaded. This will allow bulb prongs to slide out of the stationary lamp holder socket.
3. Pull bulb down and replace with direct equivalent to the original bulb.
4. Replace plastic shield. Make certain the light shields are always in place to safeguard against bulb breakage.

When replacing the light bulbs, use direct equivalents to the original bulbs.

Placing Product In Case

Do not block the slots along the front or rear of the case display floor.

CASE SHOULD BE STOCKED WITH PRE-CHILLED PRODUCT ONLY.

The display pans are removable for cleaning and can become dislodged in shipment. To ensure proper airflow and performance of the case, make sure that the display pans are positioned as shown. Check that the pans are installed properly before placing product on the display pans.

Note that your new Maxi-Deli Unit has been design and tested to give you simplicity and flexibility in maintaining your desired product temperatures. To do this you must determine and set the controls to keep the coils from icing up with the off cycle defrosts and the defrosts that you set with the defrost timer. This may require some monitoring and fine-tuning of the controls to find the right setting for your application in your operating environment.

Federal Industries will be more than happy to help you with making control and defrost settings to get your case to operate at your desired temperatures.

Note that we cannot be responsible for mechanical breakdowns, for bad controls settings, or lost product. We will help you in any way we can with setting and maintenance of the equipment to help minimize the potential for loss or spoilage of product.

Please feel free to call our toll free number (800) 356-4206 during normal business hours, central time for help and technical assistance with your new Maxi-Deli Display Case

Hinged Front Glass

The front glass hinges up for easy cleaning of the case interior. Pneumatic cylinders assist in lifting the glass and hold the glass in the full open position.



The hinged glass mechanism will give years of reliable operation in normal usage. Service on the lift mechanism is required if . . .

- The glass becomes difficult to open.
- The glass does not hold in the open position.
- The glass closes fast.

Consult the factory if service is required.

NOTE: Condensation will occur on the front and side glass if the room environment exceeds 75°F ambient and/or 55% relative humidity conditions.



CAUTION: OPERATION OF THE LIFT-UP GLASS IS TO BE DONE BY TRAINED STORE PERSONNEL ONLY. THIS CASE IS NOT INTENDED TO BE USED AS A SELF-SERVE UNIT. DO NOT ALLOW CUSTOMERS TO OPERATE LIFT-UP GLASS.

Periodic Maintenance

Cleaning Condenser Coil

Disconnect power to the unit.

Remove the front panel and vacuum the front surface of the condenser coil.

This should be done every one to two months as necessary.

CLEANING INSTRUCTIONS

Daily Cleaning

This case should be cleaned thoroughly, as described in the weekly cleaning section before it is used for the first time.



NOTICE: Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.



NOTICE: Shut lights and power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

Note: For major spills or foreign material buildup, use complete weekly cleaning instructions.

1. Clean all foreign materials from the door opening.
2. Wipe complete interior of case using a damp cloth.
3. The glass can be cleaned with common window cleaners. The remaining exterior surface should be wiped down using any ammoniated cleansers or soapy warm water.

Note: Detergents are **not** recommended.

Weekly Cleaning

This procedure is recommended on a weekly basis. It may need to be performed more often if necessary to maintain a clean, sanitary case. The case should be cleaned to this procedure before using the first time.



NOTICE: Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.



NOTICE: Shut lights and power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

Interior Cleaning

1. Remove rear doors by lifting up and tilting bottom out.
2. Lift up the front glass to the fully open position.
3. Lift the display pans up and take them out of the case.
4. If, necessary, remove front vent by lifting straight up and out.
5. Clean the interior of the case using warm soaping water. Wipe off all soapy water with a damp cloth and allow it to dry.

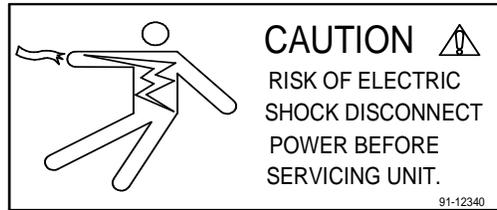
Note: Depending on the amount of usage and spillage of foreign material, some fasteners may have to be removed and parts disassembled to allow proper cleaning of the unit.

6. Clean foreign material from door tracks using warm soapy water and a brush. Apply a light film of lubricant, such as PAM, to make the doors operate smoother.
7. Clean both sides of the doors and interior of the front glass using any common window cleaner.
8. Reassemble the case in reverse order starting with Step 4.

Exterior Cleaning

1. Clean the front glass using any common window cleaner.
2. The exterior surfaces should be wiped down using warm soapy water.

SERVICE INFORMATION



Before any service work is performed on the case, make sure all power is disconnected to the case.

Service problems or request for repair parts from authorized service agencies, trained service personnel, or owners should be referred to:

CUSTOMER SERVICE DEPARTMENT
Federal Industries
P.O. Box 290
Belleville, WI 53508
Toll Free: (800) 356-4206 / WI Phone (608) 424-3331
Fax: (608) 424-3234

Pre-Service Checklist

You may avoid the cost and inconvenience of an unnecessary service call by first reviewing this checklist of frequently encountered situations that can cause unsatisfactory case performance.



CAUTION:

Before servicing case, turn off power at the main breaker of fuse box.

Pre-Service Checklist

Case Does Not Operate

Check for disconnected power supply.

Check for tripped breaker on blown fuse.

Check that the power switch and thermostat display are not “off”.

Lights Do Not Operate

Check that light switch is on.

Be sure light is properly seated in the sockets.

Case Temperature Too Warm

Check that the cold air inlet and outlet slots are not blocked.

Be sure front glass is closed tightly and back doors are closed.

Check for a blocked or dirty condenser coil.

Check cold airflow. Lack of adequate cold airflow could indicate a defective evaporator fan or a blocked evaporator coil. Check that paper or foreign materials are not blocking evaporator. If the evaporator coil is blocked due to excessive frost, turn the temperature setting to “0” (“off”) position for approximately one hour to defrost. Excessive frost can buildup if the case is operated with the doors open for extended periods of time.

Glass Fogging

Check room ambient – Case is designed to operate in an environment not to exceed 75°F and 55% relative humidity.

Check case temperature – Case is designed to operate between 34°F and 41°F.

Check that a nearby fan or air duct is not disturbing the airflow.

Overflow Of Condensate Evaporator

If pan is over flowing . . .

Check that drain lines terminates properly over water reservoir.

Check room ambient conditions. The room environment should not exceed 75°F ambient and 55% humidity conditions.

Special Service Situations

There are rare occasions when the refrigerant charge must be evacuated from a case in order to perform service work. In those situations, Federal Industries recommends that the refrigerant charge be evacuated into a recovery system to prevent the possibility of hydro-fluorocarbons (HFC's) from being released into the atmosphere. The release of HFC's into the atmosphere is a potential source of global warming.

If moisture or liquid is observed around or under a Federal Industries case, an immediate investigation should be made by qualified personnel to determine the source of the moisture or liquid. The investigation made should determine if the case is malfunctioning or if there is a simple housekeeping problem.

Moisture or liquid around or under a case is a potential slip/fall hazard for persons walking by or working in the general area of the case. Any case malfunction or housekeeping problem that creates a slip/fall hazard around or under a case should be corrected immediately.

SALE & DISPOSAL

Owner Responsibility

If you sell or give away your Federal Industries case you must make sure that all safety labels and the Installation-Service Manual are included with it. If you need replacement labels or manuals, Federal Industries will provide them free of charge. Contact the customer service department at Federal Industries at (800) 356-4206.

The customer service department at Federal Industries should be contacted at the time of sale or disposal of your case so records may be kept of its new location.

If you sell or give away your Federal Industries case and you evacuate the refrigerant charge before shipment. Federal Industries recommends that the charge be evacuated into a recovery system to prevent the possibility of HCFC's from being released into the atmosphere.

REFRIGERATION & ELECTRICAL DATA

Model	MSG/MCG-SC	MSG/MCG-R
POWER SUPPLY, VOLTS	120 Volts	120 Volts
Frequency	60 Hertz	60 Hertz
Phase	1 Phase	1 Phase
Number of Wires	3	3
 Refrigerant Charge (R-404a):	5 lbs. DC/DM Models 4 lbs. DF Models	

	AMPS	VOLTS	AMPS	VOLTS
Compressor (DC & DM)				
RLA	12.1	120	----	----
LRA	68.0	120	----	----
 Condenser Fan Motor	 2.0	 120	 ----	 ----
 Compressor (DF)				
RLA	9.2	120	----	----
LRA	58.8	120	----	----
 Condenser Fan Motor	 1.4	 120	 ----	 ----
 Evaporator Fan Motor	 0.18 ea.	 120	 .18 ea.	 120
 Lights (includes optional shelf lights)	 .49	 120	 .49	 120

Refer to the rating plate data attached to the rear of the case for Maximum Fuse Size and Minimum Circuit Ampacity.

REPLACEMENT PARTS

NEW MAXI-DELI EVAPORATOR COIL'S USAGE

				GRAVITY COIL	FRONT COIL	REAR COIL	TXV	QTY
MSG/MCG	454	DF	38"	33-17459			32-18244	1
MSG/MCG	454	DC	38"	33-17459	33-17459		32-18244	2
MSG/MCG	454	DM	38"	33-17459	33-17459	33-17493	32-18244	3
MSG/MCG	654	DF	62"	33-17460			32-18244	1
MSG/MCG	654	DC	62"	33-17460	33-17460		32-18244	2
MSG/MCG	654	DM	62"	33-17460	33-17460	33-17494	32-18244	3
MSG/MCG	854	DF	86"	33-17461			32-18244	1
MSG/MCG	854	DC	86"	33-17461	33-17461		32-18244	2
MSG/MCG	854	DM	86"	33-17461	33-17461	33-17495	32-18244	3
MSG/MCG	1054	DF	110"	33-17462			32-18244	1
MSG/MCG	1054	DC	110"	33-17462	33-17462		32-18244	2
MSG/MCG	1054	DM	110"	33-17462	33-17462	33-17496	32-18244	3

REPLACEMENT PARTS

MODEL MCG - DC Self-Contained & Remote

Part Description	MCG DC MODELS			
	454	654	854	1054
<u>Electrical Components</u>				
Timer, Solid State Defrost	41-17695	41-17695	41-17695	41-17695
Timer, Solid State 10-90 Min. Run	41-17693	41-17693	41-17693	41-17693
Light	(1) 42-11069	(1) 42-11071	(2) 42-11069	(1) 42-11071 (1) 42-11069
Ballast	(1) 39-12902	(1) 39-12904	(1) 39-12904	(1) 39-12903 (1) 39-12902
Lamp Holder - Spring Loaded	42-10833	42-10833	42-10833	42-10833
Lamp Holder - Stationary	42-10834	42-10834	42-10834	42-10834
<u>Miscellaneous Components</u>				
Mezzanine Shelf	M15580	M15580-4	M15580-2	M15580-3
Mezzanine Bracket, Left Side	M15581-L	M15581-L	M15581-L	M15581-L
Mezzanine Bracket, Right Side	M15581-R	M15581-R	M15581-R	M15581-R
End Glass (Clear)	50-17458	50-17458	50-17458	50-17458
End Glass (Reflective) Left Side	50-17720-R	50-17720-R	50-17720-R	50-17720-R
End Glass (Reflective) Right Side	50-17720-L	50-17720-L	50-17720-L	50-17720-L
Front Glass	50-17440-1	50-17440-2	50-17440-3	50-17440-4
Shelf Lamp Cord	43-11877	43-11877	43-11877	43-11877

REPLACEMENT PARTS

MODEL MCG – DM Self-Contained & Remote

Part Description	MCG DM MODELS			
	454	654	854	1054
<u>Electrical Components</u>				
Timer, Solid State Defrost	41-17695	41-17695	41-17695	41-17695
Timer, Solid State 10-90 Min. Run	41-17693	41-17693	41-17693	41-17693
Light	(1) 42-11069	(1) 42-11071	(1) 42-11069	(1) 42-11071
Ballast	(1) 39-12902	(1) 39-12904	(1) 39-12904	(1) 39-12903
Lamp Holder - Spring Loaded	42-10833	42-10833	42-10833	42-10833
Lamp Holder – Stationary	42-10834	42-10834	42-10834	42-10834
<u>Miscellaneous Components</u>				
End Glass (Clear)	50-17458	50-17458	50-17458	50-17458
End Glass (Reflective) Left Side	50-17720-L	50-17720-L	50-17720-L	50-17720-L
End Glass (Reflective) Right Side	50-17720-R	50-17720-R	50-17720-R	50-17720-R
Front Glass	50-17440-1	50-17440-2	50-17440-3	50-17440-4

REPLACEMENT PARTS

MODEL MCG - DF (Fish Case) Self-Contained & Remote

Part Description	MCG DF MODELS			
	454	654	854	1054
<u>Electrical Components</u>				
Timer, Solid State Defrost	41-17695	41-17695	41-17695	41-17695
Timer, Solid State 10-90 Min. Run	41-17693	41-17693	41-17693	41-17693
Light	(1) 42-11069	(1) 42-11071	(2) 42-11069	(1) 42-11071 (1) 42-11069
Ballast	(1) 39-12902	(1) 39-12902	(1) 39-12902	(1)39-12903
Lamp Holder - Spring Loaded	42-10833	42-10833	42-10833	42-10833
Lamp Holder - Stationary	42-10834	42-10834	42-10834	42-10834
<u>Miscellaneous Components</u>				
End Glass (Clear)	50-17458	50-17458	50-17458	50-17458
End Glass (Reflective) Left Side	50-17720-L	50-17720-L	50-17720-L	50-17720-L
End Glass (Reflective) Left Side	50-17720-R	50-17720-R	50-17720-R	50-17720-R
Front Glass	50-17440-1	50-17440-2	50-17440-3	50-17440-4

REPLACEMENT PARTS

MODEL MSG - DC Self-Contained & Remote

Part Description	MSG DC MODELS			
	454	654	854	1054
<u>Electrical Components</u>				
Timer, Solid State Defrost	41-17695	41-17695	41-17695	41-17695
Timer, Solid State 10-90 Min. Run	41-17693	41-17693	41-17693	41-17693
Light	(1) 42-11069	(1) 42-11071	(2) 42-11069	(1) 42-11071 (1) 42-11069
Ballast	(1) 39-12902	(1) 39-12904	(1) 39-12904	(1) 39-12903 (1) 39-12902
Lamp Holder - Spring Loaded	42-10833	42-10833	42-10833	42-10833
Lamp Holder - Stationary	42-10834	42-10834	42-10834	42-10834
<u>Miscellaneous Components</u>				
Mezzanine Shelf	M15580	M15580-4	M15580-2	M15580-3
Mezzanine Bracket, Left Side	M15581-L	M15581-L	M15581-L	M15581-L
Mezzanine Bracket, Right Side	M15581-R	M15581-R	M15581-R	M15581-R
End Glass (Clear)	50-17610	50-17610	50-17610	50-17610
End Glass (Reflective) Left Side	50-17721-R	50-17721-R	50-17721-R	50-17721-R
End Glass (Reflective) Right Side	50-17721-L	50-17721-L	50-17721-L	50-17721-L
Front Glass	50-17610-1	50-17610-2	50-17610-3	50-17610-4
Shelf Lamp Cord	43-11877	43-11877	43-11877	43-11877

REPLACEMENT PARTS

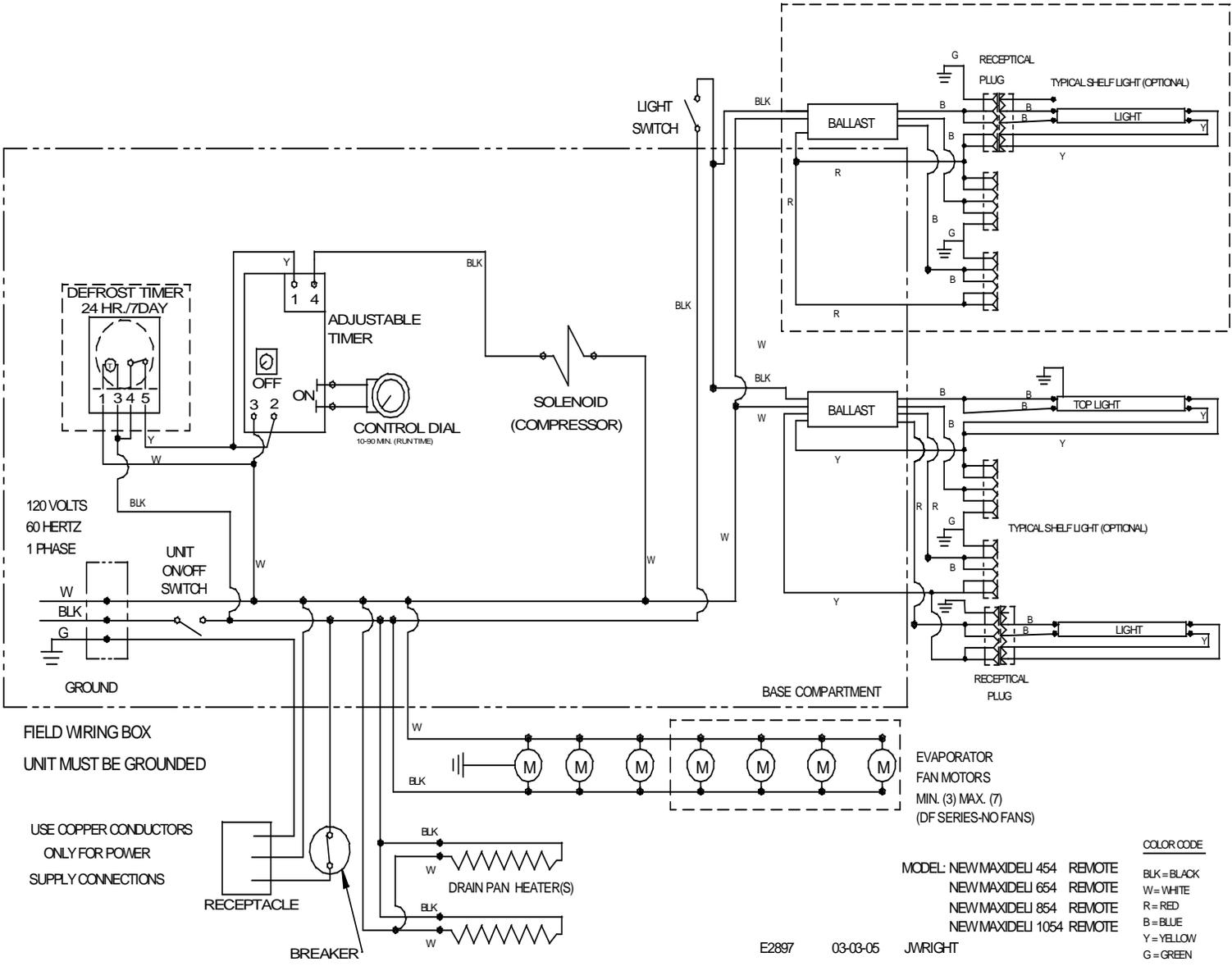
MODEL MSG – DM Self-Contained & Remote

Part Description	MSG DM MODELS			
	454	654	854	1054
<u>Electrical Components</u>				
Timer, Solid State Defrost	41-17695	41-17695	41-17695	41-17695
Timer, Solid State 10-90 Min. Run	41-17693	41-17693	41-17693	41-17693
Light	(1) 42-11069	(1) 42-11071	(2) 42-11069	(1) 42-11071 (1) 42-11069
Ballast	(1) 39-12902	(1) 39-12904	(1) 39-12904	(1) 39-12903 (1) 39-12902
Lamp Holder - Spring Loaded	42-10833	42-10833	42-10833	42-10833
Lamp Holder - Stationary	42-10834	42-10834	42-10834	42-10834
<u>Miscellaneous Components</u>				
End Glass (Clear)	50-17610	50-17610	50-17610	50-17610
End Glass (Reflective) Left Side	50-17721-R	50-17721-R	50-17721-R	50-17721-R
End Glass (Reflective) Right Side	50-17721-L	50-17721-L	50-17721-L	50-17721-L
Front Glass	50-17610-1	50-17610-2	50-17610-3	50-17610-4

REPLACEMENT PARTS

MODEL MSG – DF Self-Contained & Remote

Part Description	MSG DM MODELS			
	454	654	854	1054
<u>Electrical Components</u>				
Timer, Solid State Defrost	41-17695	41-17695	41-17695	41-17695
Timer, Solid State 10-90 Min. Run	41-17693	41-17693	41-17693	41-17693
Light	(1) 42-11069	(1) 42-11071	(2) 42-11069	(1) 42-11071 (1) 42-11069
Ballast	39-12902	39-12902	39-12902	39-12903
Lamp Holder - Spring Loaded	42-10833	42-10833	42-10833	42-10833
Lamp Holder - Stationary	42-10834	42-10834	42-10834	42-10834
<u>Miscellaneous Components</u>				
End Glass (Clear)	50-17610	50-17610	50-17610	50-17610
End Glass (Reflective) Left Side	50-17721-R	50-17721-R	50-17721-R	50-17721-R
End Glass (Reflective) Right Side	50-17721-L	50-17721-L	50-17721-L	50-17721-L
Front Glass	50-17610-1	50-17610-2	50-17610-3	50-17610-4



WIRING DIAGRAM

MSG/MCG

REMOTE