

# ***Mobile Climate Control***

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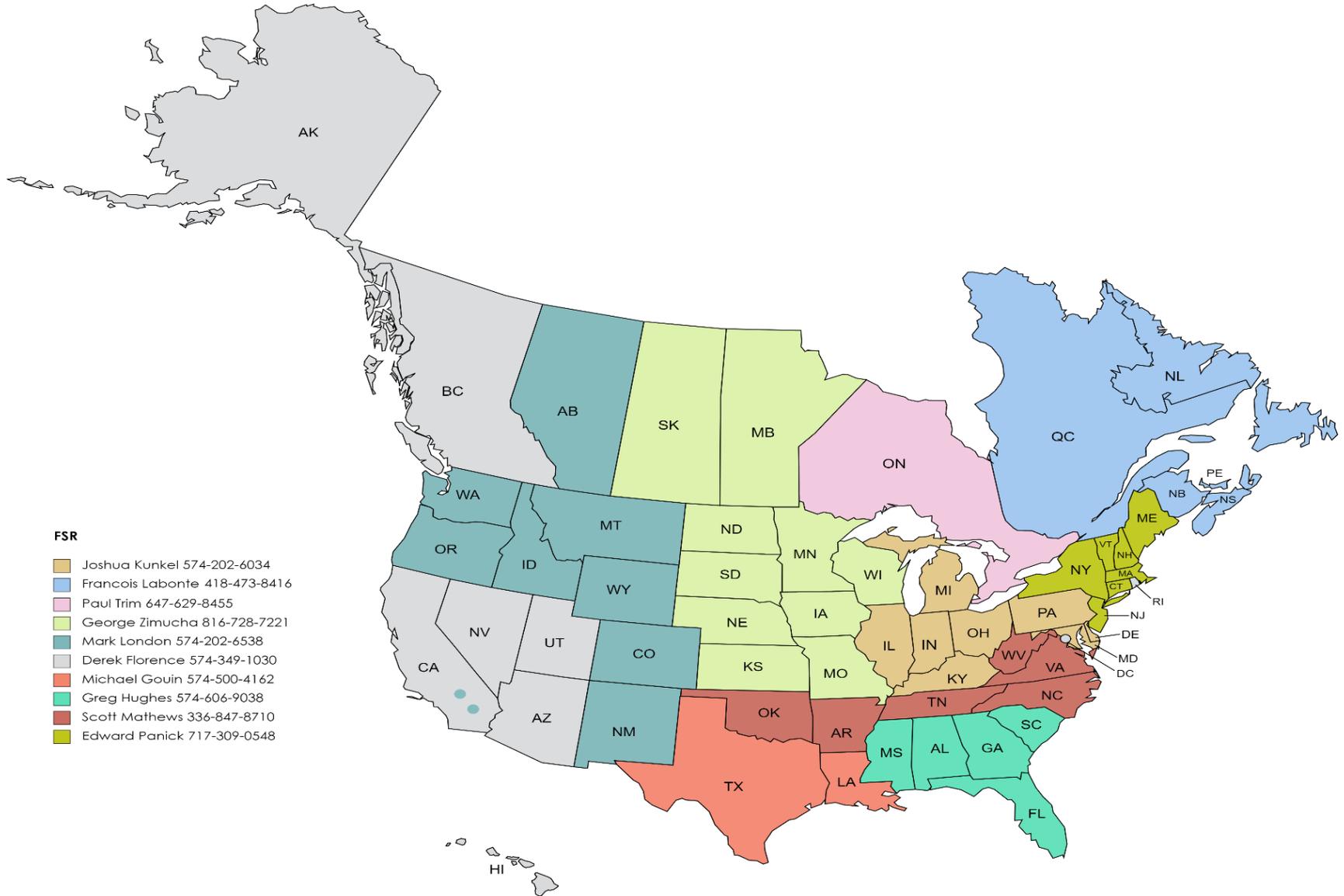
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# Field Service Representative By Region, State, OR Province



## Topics of discussions

How a bus air-condition System works

Diagnoses of a problem,

Preventive Maintenance tips.





# School Bus

# Shuttle Bus



StarTrans Senator 28 tag-axle w/optional 36" x 36" Top T-Slider windows



**Mobile Climate Control**

# Small Bus air condition system

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## What is a Split System?

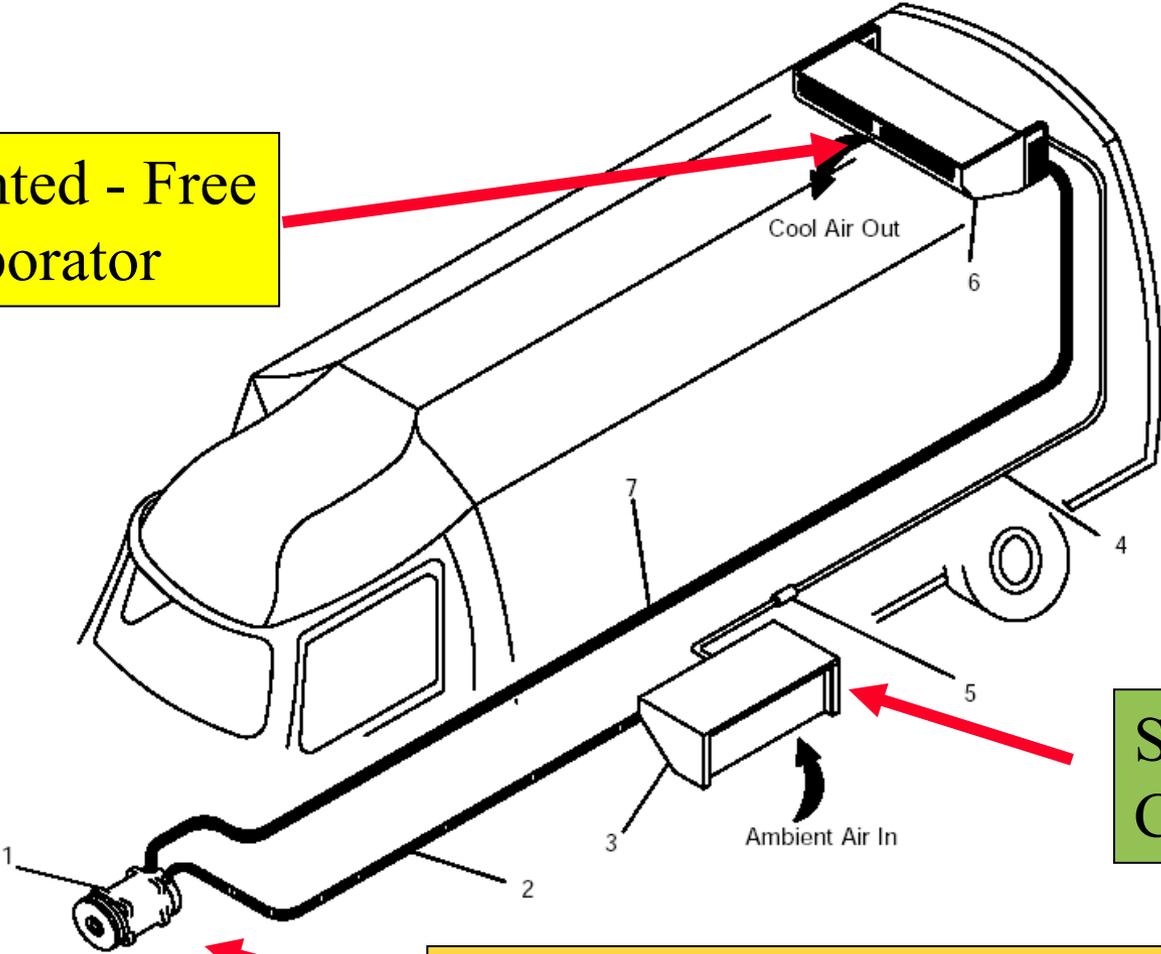
- It is a flexible arrangement of A/C components to meet the needs of the Shuttle and School Bus on the Marketplaces.
- The Evaporator Modules,
- Condenser Modules
- Compressors
- These can be “Mixed and Matched” to meet the applications load requirement.



# Small bus air condition system

## Sample Stand-Alone System

Rear Mounted - Free Blow Evaporator



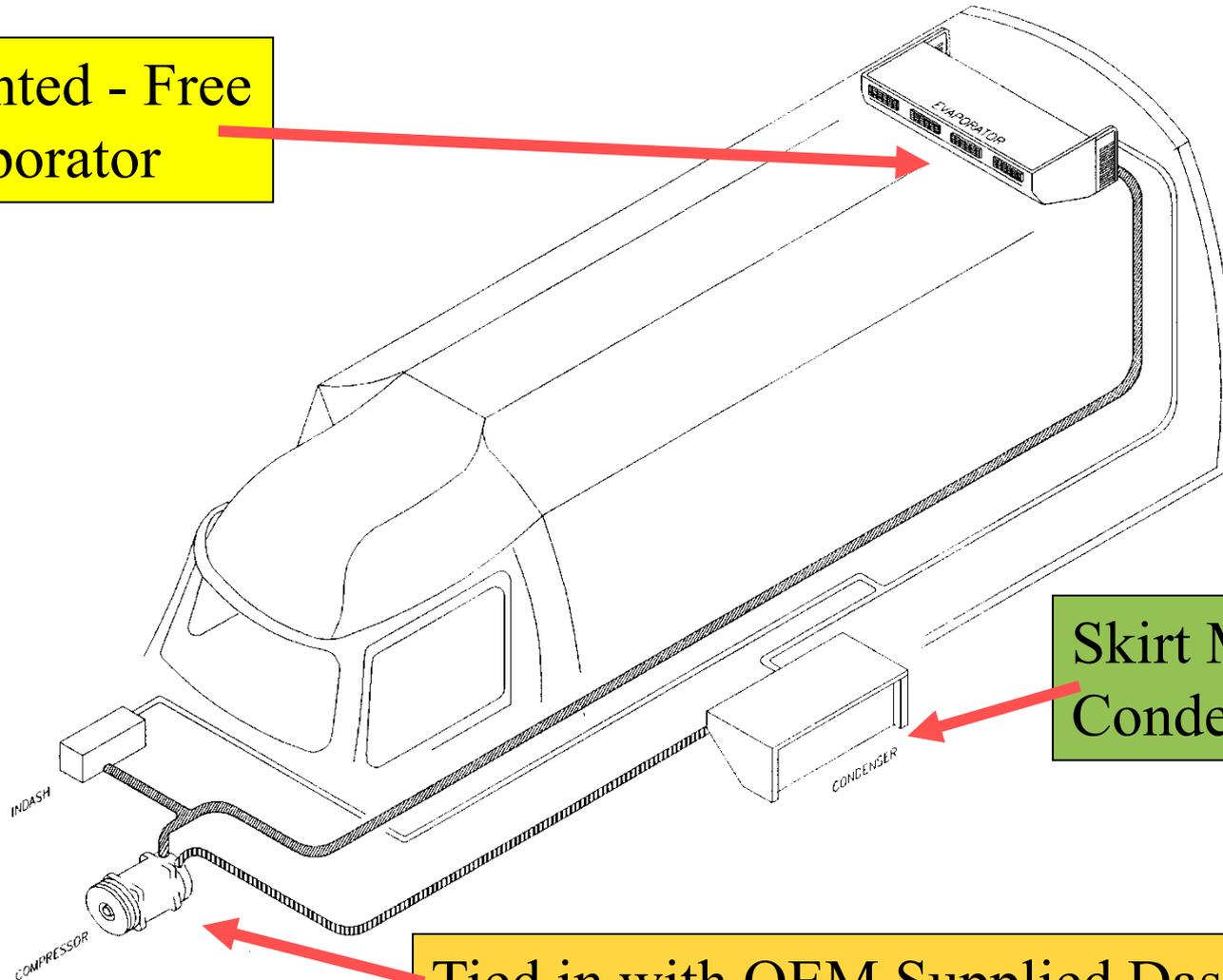
Skirt Mounted Condenser

MCC Supplied Compressor



# Sample Split System

Rear Mounted - Free  
Blow Evaporator



Skirt Mounted  
Condenser

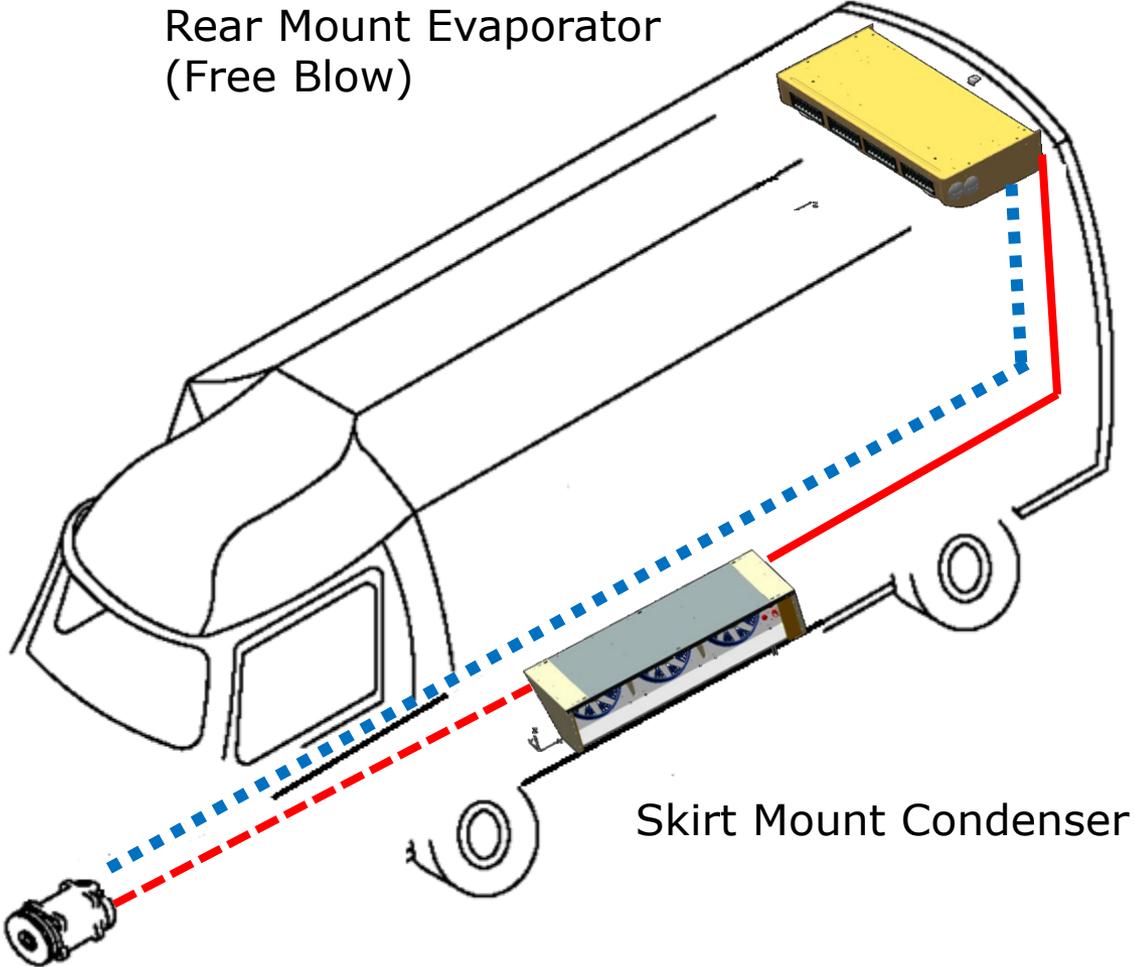
Tied in with OEM Supplied Dash Unit



Mobile Climate Control

# Split System Products

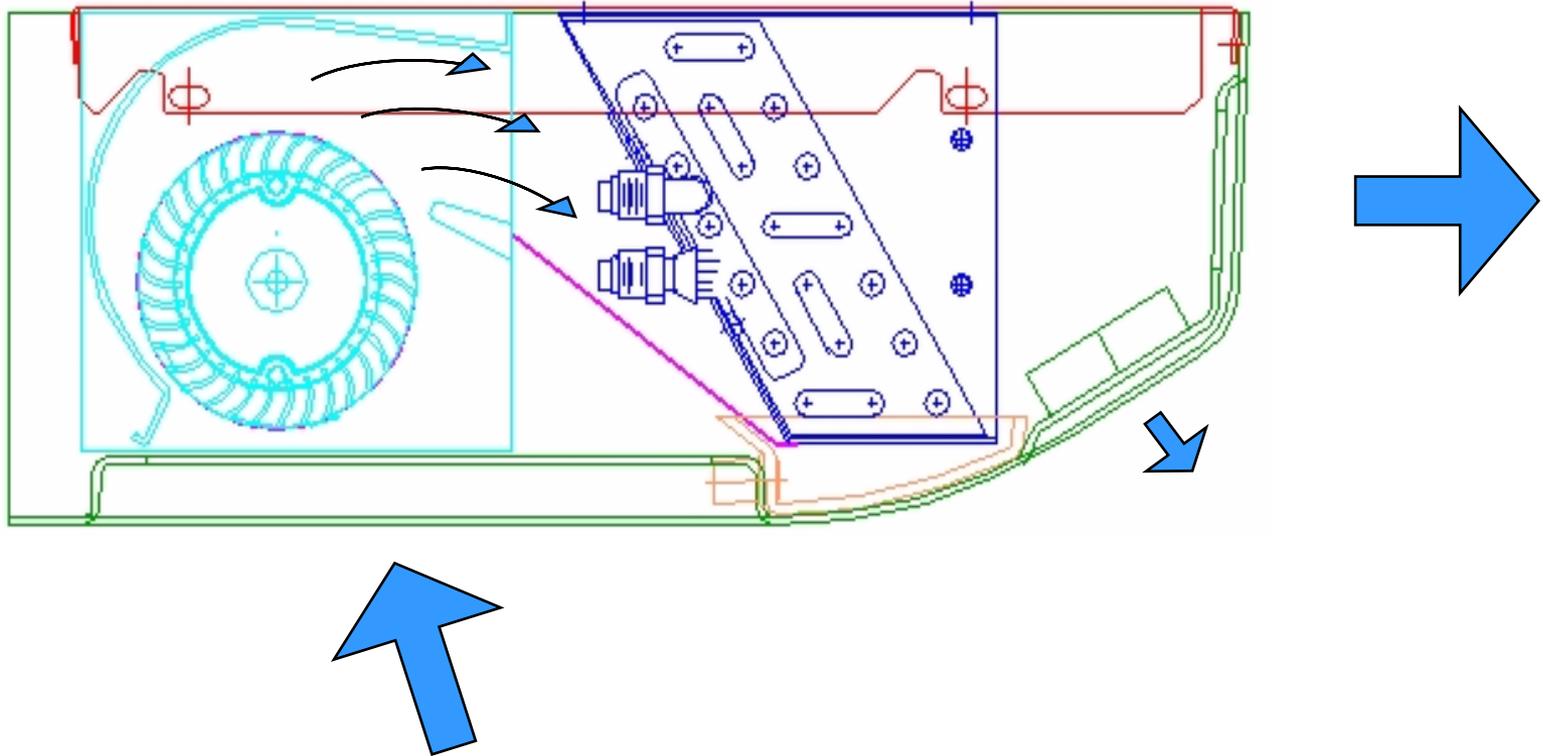
Rear Mount Evaporator  
(Free Blow)



Skirt Mount Condenser



# MCC Gen V Evaporator



## Products

### 1. Product Line – Split Systems (Small Bus)

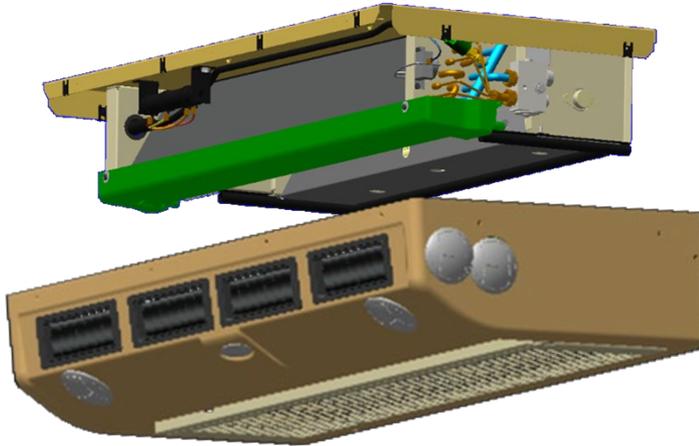
#### Complete Product Portfolio for Every Bus Application

#### Main Advantages:

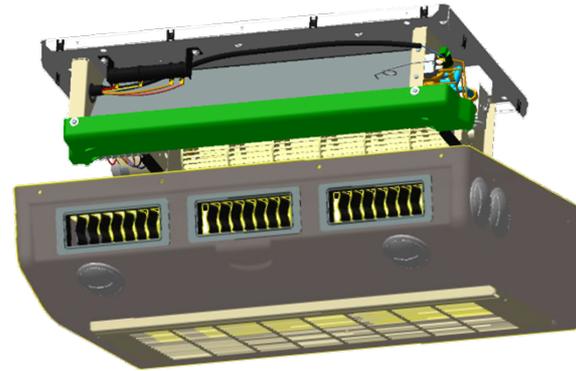
- EM Series
  - Capacity range: 10 to 27kW
  - Transverse (tangential wheel) technology
  - Improved 'air-throw' & coil efficiency
  - 20% reduced height
  - Improved filter accessibility
- IW Series
  - Capacity range: 13 to 16kW
  - 'OEM' appearance
- CM Series
  - Micro channel technology
  - 60% weight reduction
  - Reduced system refrigerant charge



# EM Evaporators (Free Blow)



EM1 GenV Free Blow  
Rear, Front & Side Mount



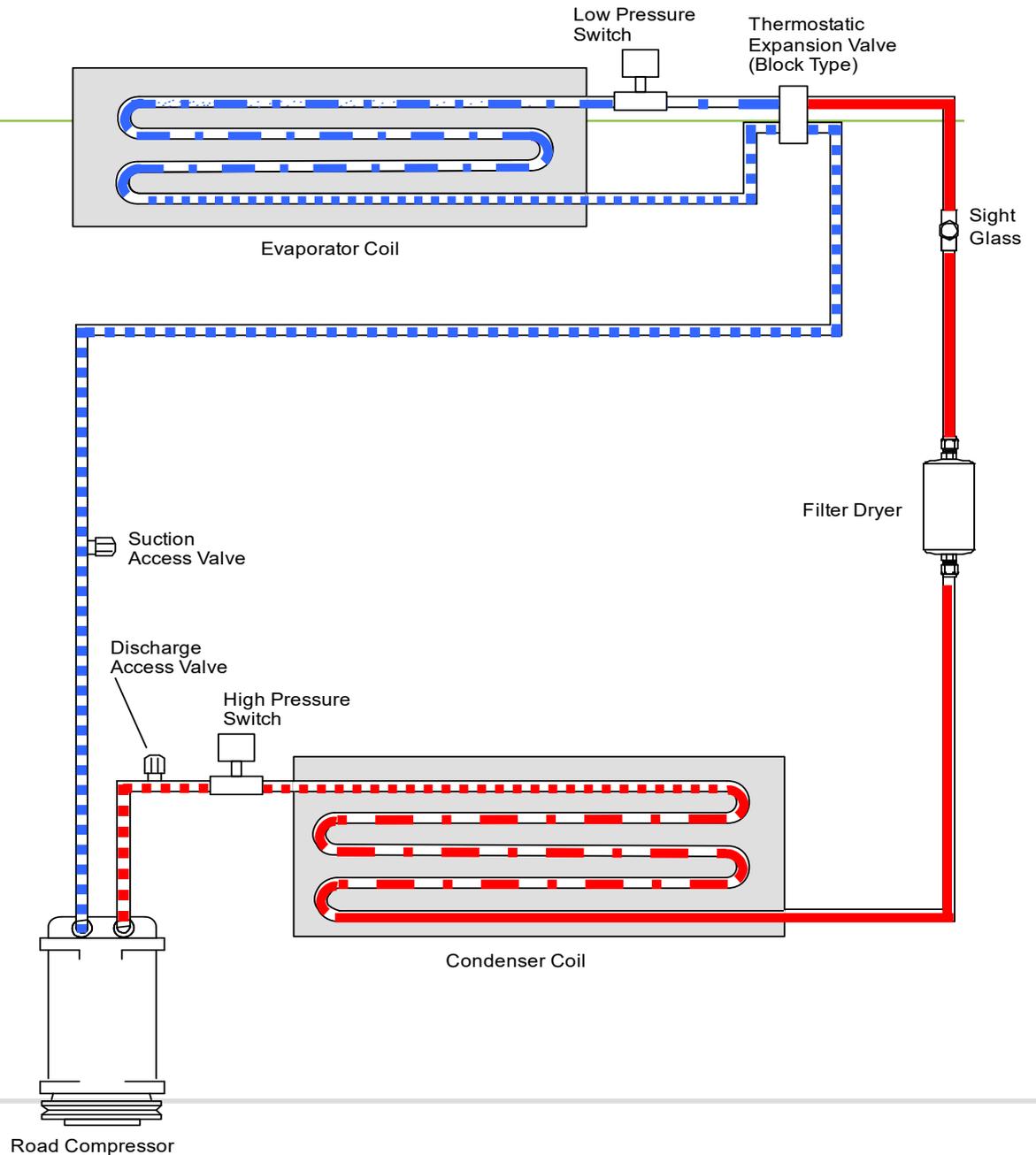
EM2 GenV Free Blow  
Rear, Front & Side Mount

Unit Model	Cooling	Voltage		CFM	Weight lbs/kg	Dimensions- inches/cm		
	kW/BTU per hr	12v/A	24v/A			Length	Width	Height
EM-1	16.1/55k (IMACA) 6.9/23.45k (ARI)	29.5	N/A	1600	60/27.2	41.25/104.78	19.13/48.59	7.62/19.35
EM-2	13.2/45k (IMACA) 5.4/18.5k (ARI)	24.3	N/A	1200	49/22.2	33.95/86.23	19.13/48.59	7.62/19.35

# Split System Refrigeration Cycle

## Legend

HT HP SHV	.....
HT HP S.M.	- . - . - .
HT HP SCL	————
LT LP S.M.	- . - . - .
LT LP SHV	.....



# Preventative Maintenance Schedule

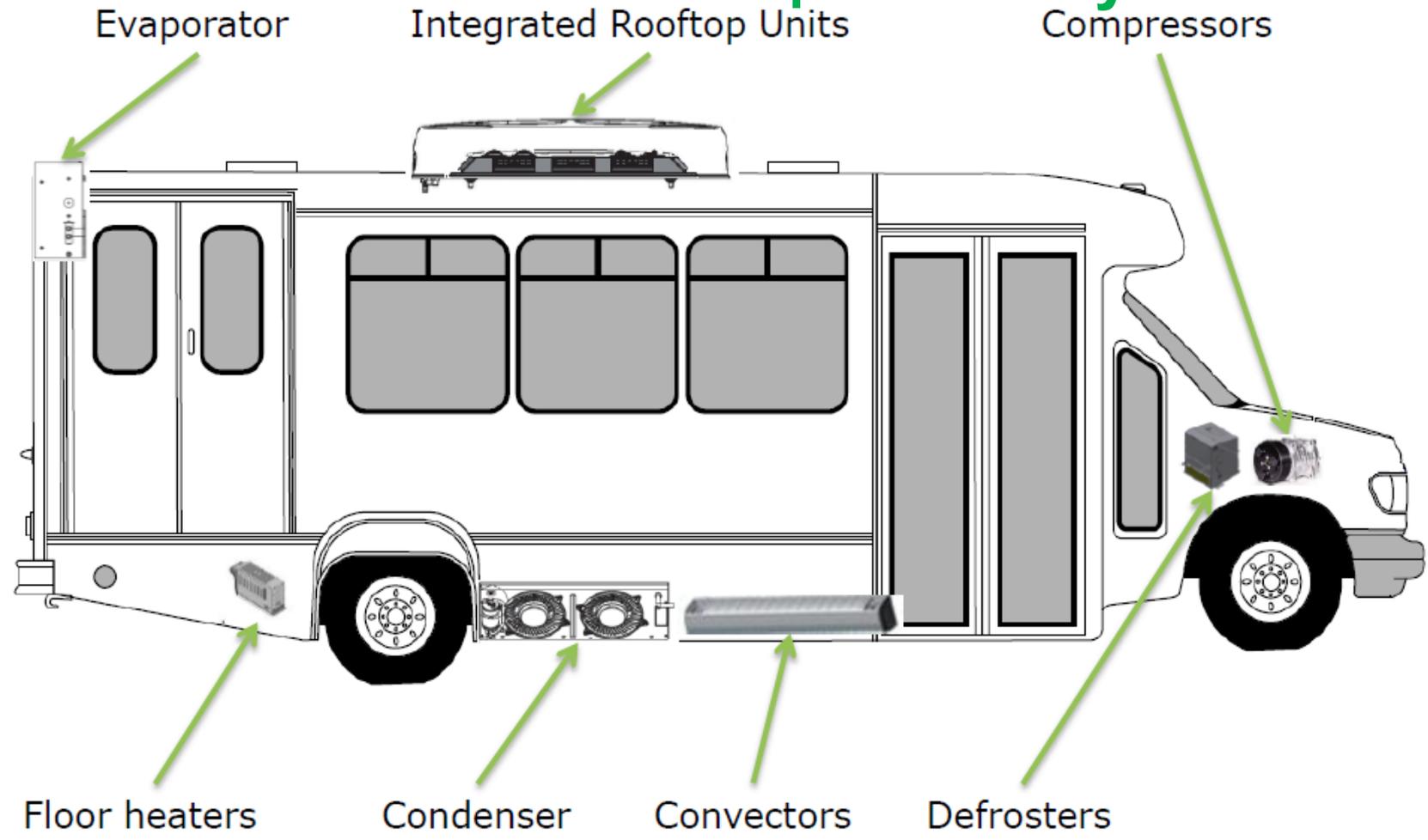
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## Monthly

1. Inspect & Tighten Compressor Drive Belts
2. Inspect & Clean Condenser Coil Fins
3. Clean or Replace Evaporator Air Filters
4. Inspect Refrigerant Hoses
5. Check Battery Voltage
6. Inspect Electrical Wiring Harness



# Air Conditioner Components Layout



**MCC – FULL LINE MANUFACTURER**

# Preventative Maintenance Schedule

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## Quarterly

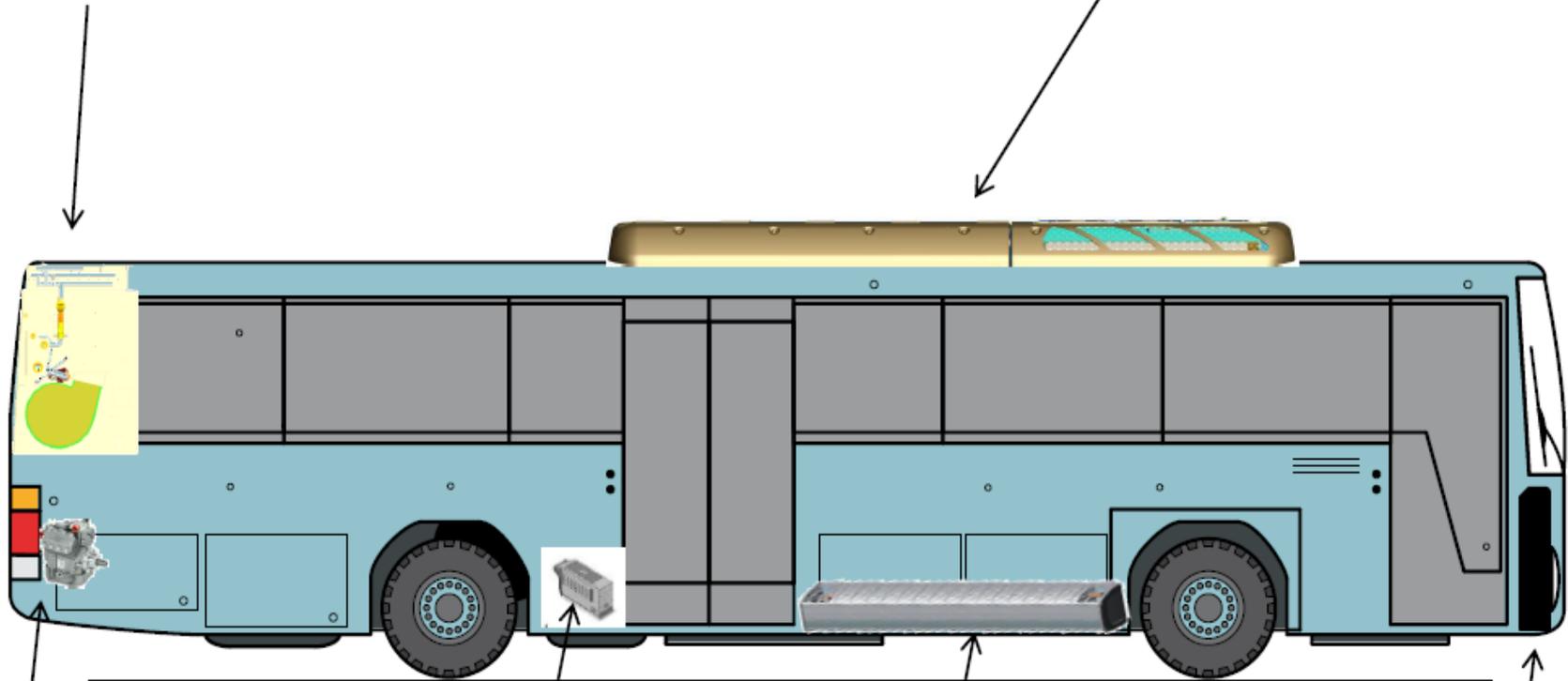
1. Inspect & Clean Evaporator Coil Fins
2. Inspect & Tighten Mount Bracket Bolts
3. Check Refrigerant System Pressure
4. Check Evaporator Drain Lines



# Air Condition Components Layout

Rear Mounts

Rooftop



Compressors

Floor heaters

Convectors

Defrosters

## MCC – FULL LINE MANUFACTURER

# Preventative Maintenance Schedule

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## Semi-Annual

1. Inspect Condenser Fan Blades
2. Check Refrigerant Level In Sight Glass
3. Leak Test Fitting & Hose Connections
4. Clean Evaporator Drain Pan(s)
5. Open Bus Heater Valves (Winter)
6. Check Filter Drier For Restriction
7. Close Bus Heater Valves (Summer)



## How to get a manual on MCC web site

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- Go to MCC web site @ [www.mcc-hvac.com](http://www.mcc-hvac.com)
- click at customer care
- Click at Publication
- Click at manual
- Click at the manual you want

The End of Presentation

