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Topics of discussions

How a bus air-condition System works

Diagnoses of a problem,

Preventive Maintenance tips.
School Bus

Shuttle Bus

Mobile Climate Control
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.
Sample Stand-Alone System

Rear Mounted - Free Blow Evaporator

Skirt Mounted Condenser

MCC Supplied Compressor

Small bus air condition system

Mobile Climate Control
Split System Products

Rear Mount Evaporator (Free Blow)

Skirt Mount Condenser
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

<table>
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<tr>
<th>Unit Model</th>
<th>Cooling</th>
<th>Voltage</th>
<th>CFM</th>
<th>Weight lbs/kg</th>
<th>Dimensions- inches/cm</th>
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<td></td>
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<td>12v/A</td>
<td>24v/A</td>
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<td>Length</td>
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<td>EM-1</td>
<td>16.1/55k (IMACA)</td>
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<td>6.9/23.45k (ARI)</td>
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<td>5.4/18.5k (ARI)</td>
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**Split System Refrigeration Cycle**

**Legend**

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

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**Symbols:**

- Road Compressor
- Discharge Access Valve
- Suction Access Valve
- Thermostatic Expansion Valve (Block Type)
- Filter Dryer
- Sight Glass
- Evaporator Coil
- Condenser Coil
- Low Pressure Switch
- High Pressure Switch
Preventative Maintenance Schedule

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

- Evaporator
- Integrated Rooftop Units
- Compressors
- Floor heaters
- Condenser
- Convectors
- Defrosters

MCC – FULL LINE MANUFACTURER
Preventative Maintenance Schedule

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

Mobile Climate Control
Preventative Maintenance Schedule

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

- 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