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NOTE: Some of the information in this manual may not apply if a special unit was ordered. If additional drawings for a special unit are necessary, they have been inserted. Contact McLean Midwest if further information is required.

RECEIVING THE AIR CONDITIONER

Inspect the air conditioner. Check for concealed damage that may have occurred during shipment. Look for dents, scratches, loose assemblies, evidence of oil, etc. Damage evident upon receipt should be noted on the freight bill. Damage should be brought to the attention of the delivering carrier. NOT to McLean Midwest -- within 15 days of delivery. Save the carton and packing material and request an inspection. Then file a claim with the delivering carrier.

McLean Midwest cannot accept responsibility for freight damages; however, we will assist you in any way possible.

HANDLING & TESTING THE AIR CONDITIONER

If it is necessary to place the air conditioner in a horizontal position after unpacking, be certain it is placed in an upright, vertical or mounting position for a minimum of five (5) minutes before operating.

Never attempt to operate the air conditioner while it is horizontal or on its side, back or front. The refrigeration compressor is filled with lubricating oil. Running the compressor without oil in the lower part of the housing will cause permanent damage to the air conditioner. This also voids the warranty.

TEST FOR FUNCTIONALITY BEFORE MOUNTING THE AIR CONDITIONER TO THE ENCLOSURE.
Refer to nameplate for proper electrical current requirements, then connect power cord to a properly grounded power supply. Minimum circuit amperage should be at least 125% of the amperage shown in the design data section for the appropriate model. No other equipment should be connected to this circuit to prevent overloading.
HANDLING & TESTING THE AIR CONDITIONER (cont.)

Operate the air conditioner for five (5) to ten (10) minutes. No excessive noise or vibration should be evident during this run period. The condenser blower (ambient air), the evaporator blower (enclosure air), and the compressor should be running.

Condenser air temperatures should be warmer than normal room temperatures within a few minutes.

The compressor is provided with automatic reset thermal overload protection. This thermo-switch is located and mounted inside the plastic enclosure clipped to the compressor. The switch operates when the compressor overheats due to clogged or dirty inlet air filter or if ambient air temperatures exceed nameplate rating or if enclosure dissipated heat loads exceed the rated capacity of the air conditioner. The thermal overload switch will actuate and stop compressor operation. The blowers will continue to operate and the compressor will restart after it has cooled to within the thermal overload cut-in temperature setting.

INSTALLATION

Step 1: Inspect air conditioner. Verify functionality before mounting the air conditioner, see Handling & Testing the Air Conditioner on page 1.

Step 2: Using the cutout dimensions shown in this manual, prepare the air conditioner opening and mounting bolt hole pattern for the enclosure.

Step 3: Using the gasket kit provided, install gaskets to air conditioner mounting flanges.

Step 4: Mount air conditioner on enclosure using mounting bolts and screws provided. Allow unit to remain upright for a minimum of five (5) minutes before starting. Caution: Air conditioner must be in upright position during operation.

Step 5: Refer to nameplate for electrical requirements. Connect the unit to a properly grounded power source. Electrical circuit should be fused with slow blow or HACR circuit breaker.

Design Data

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Hz</th>
<th>Full Load Amps</th>
<th>Phase</th>
<th>BTU/Hr @ Max Amb Temp</th>
<th>Max Amb Temp °F/°C</th>
<th>Shipping Weight Lbs/Kgs</th>
</tr>
</thead>
<tbody>
<tr>
<td>59-1226-XXX</td>
<td>220/230</td>
<td>50/60</td>
<td>10.5</td>
<td>1</td>
<td>9,400/10,550</td>
<td>0/115</td>
<td>198/90</td>
</tr>
</tbody>
</table>

*XXX will be replaced with a three-digit number designating all desired options. Consult the factory for specific model numbers...
Model Drawing

Mounting Cutout Dimensions
Components List

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Replacement Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blower, Condenser</td>
<td>52-6025-10</td>
</tr>
<tr>
<td>Blower, Evaporator</td>
<td>52-6025-10</td>
</tr>
<tr>
<td>Capacitor, Compressor Run</td>
<td>52-6031-01</td>
</tr>
<tr>
<td>Coil, Condenser</td>
<td>52-6111-03</td>
</tr>
<tr>
<td>Coil, Evaporator</td>
<td>59-6121-01</td>
</tr>
<tr>
<td>Compressor, AK</td>
<td>10-1026-12</td>
</tr>
<tr>
<td>Filter, Air, Reusable, Wide</td>
<td>10-1000-55</td>
</tr>
<tr>
<td>Filter/Dryer</td>
<td>52-8028-00</td>
</tr>
<tr>
<td>Heater, Compressor Case</td>
<td>10-1030-11</td>
</tr>
<tr>
<td>Hot Gas By-Pass Valve</td>
<td>52-8027-00</td>
</tr>
<tr>
<td>Relay, Power</td>
<td>10-1005-34</td>
</tr>
<tr>
<td>Switch, Head Pressure Control</td>
<td>52-6104-35</td>
</tr>
<tr>
<td>Switch, High Pressure Malfunction</td>
<td>52-6104-44</td>
</tr>
<tr>
<td>Terminal Block, Main</td>
<td>10-1003-06</td>
</tr>
<tr>
<td>Terminal Block, Unit</td>
<td>10-1003-31</td>
</tr>
<tr>
<td>Thermal Overload, Compressor</td>
<td>10-1007-13</td>
</tr>
<tr>
<td>Thermostat</td>
<td>52-6155-02</td>
</tr>
</tbody>
</table>

Wire Diagrams
TEMPERATURE CONTROL

The electromechanical thermostat is factory preset to 75°F/25°C and is located on the rear (enclosure end) of the air conditioner. To change the temperature setting, turn the thermostat adjustment knob counter-clockwise to decrease and clockwise to increase the temperature setpoint.

PRINCIPLES OF OPERATION

If electrical power to the air conditioner is interrupted and reapplied immediately, (within 3 to 5 seconds), the compressor may not restart due to the high back pressure of the compressor. It takes a minimum of one (1) minute after shut-down for the compressor suction and discharge pressures to equalize in order for the air conditioner to restart.

Operating the air conditioner below the minimum ambient temperature or above the maximum ambient temperatures indicated on the nameplate voids all warranties.

It is recommended that the warranty section of this manual be read in order to familiarize yourself with parameters of restricted operation.

The moisture that the enclosure air can contain is limited. If moisture flows from the drain tube continuously this can only mean that ambient air is entering the enclosure. Be aware that frequent opening of the enclosure’s door admits humid air which the air conditioner must then dehumidify.

MAINTENANCE

Compressor

The compressor requires no maintenance. It is hermetically sealed, properly lubricated at the factory and should provide years of satisfactory operating service.

Should the refrigerant charge be lost, recharging ports (access fittings) on the suction and discharge sides of the compressor are provided for recharging and/or checking suction and discharge pressures.

Under no circumstances should the access fitting covers be loosened, removed or tampered with.

Breaking of seals on compressor access fittings during warranty period will void warranty on hermetic system.

Recharging ports are provided for the ease and convenience of reputable refrigeration repair service personnel for recharging the air conditioner.

Inlet Air Filter

Proper maintenance of the inlet air filter, located behind the front shroud, will assure normal operation of the air conditioner. If filter maintenance is delayed or ignored, the maximum ambient temperatures under which the unit is designed to operate will be decreased.

If the compressor’s operating temperature increases above designed conditions due to a dirty or clogged filter (or plugged condenser coil), the air conditioner’s compressor will stop operating due to actuation of the thermal overload cut-out switch located on the compressor housing. As soon as the compressor temperature has dropped to within the switch’s cut-in setting, the compressor will restart automatically. However the above condition will continue to take place until the filter has been cleaned or replaced.
It is recommended that power to the air conditioner be interrupted intentionally when abnormally high compressor operating temperature causes automatic shut-down of the unit. The above described shut-down is symptomatic of clogged or dirty filter, thus causing a reduction in cooling air flow across the surface of the compressor and condenser coil.

Do not run the air conditioner for extended periods of time with the filter removed. Particles of dust, lint, etc., can plug the fins of the condenser coil which will give the same reaction as a plugged filter. The condenser coil is not visible through the filter opening, so protect it with a filter.

Continued operation under the above conditions can and will damage and shorten compressor life. The air conditioner features an easily removable inlet filter to facilitate necessary cleaning. There should be no reason to neglect this necessary maintenance.

How To Remove, Clean or Install a New Inlet Air Filter

RP aluminum washable air filters are designed to provide excellent filtering efficiency with a high dust holding capacity and a minimum amount of resistance to air flow. Because they are constructed entirely of aluminum they are lightweight and easy to service. Optimum filter performance is maintained by recoating the filters after washing with RP Super Filter Coat adhesive. To achieve maximum performance from your air handling equipment, air filters should be cleaned on a regular basis.

The inlet air filter is located behind the front shroud. To remove the shroud, remove the two screws located on the top of the shroud. Pull the shroud away from unit. The filter may now be removed and cleaned or a new filter may be installed. Reinstall the shroud.

Cleaning Instructions:
1. Flush the filter with warm water from the exhaust side to the intake side. DO NOT USE CAUSTICS.
2. After flushing allow filter to drain. Placing it with a corner down will assure complete drainage.
3. Recoat the filters with RP Super Filter Coat adhesive. When spraying filter do so from both sides for maximum concentration of adhesive.

Condenser and Evaporator Blowers

Blower motors require no maintenance. All bearings, shafts, etc. are lubricated during manufacturing for the life of the motor.

If the condenser blower motor (ambient blower) should fail, it is not necessary to remove the air conditioner from the cabinet or enclosure to replace the blower. The condenser blower is mounted on its own bulkhead and is easily accessible by removing the front/top cover.

Caution: Operation of the air conditioner in areas containing airborne caustics or chemicals can rapidly deteriorate filters, condenser coils, blowers and motors, etc. Contact McLean Midwest for special recommendations.

Refrigerant Loss

Each air conditioner is thoroughly tested prior to leaving the factory to insure against refrigeration leaks. Shipping damage or microscopic leaks not found with sensitive electronic refrigerant leak detection equipment during manufacture may require repair or recharging of the system. This work should only be performed by qualified professionals, generally available through a local, reputable air conditioning repair or service company.

Refer to the data on the nameplate which specifies the type of refrigerant and the charge size in ounces.

Before recharging, make sure there are no leaks and that the system has been properly evacuated into a deep vacuum.
TROUBLE SHOOTING

Basic Air Conditioning Trouble Shooting Check List

1. Check manufacturer's nameplate located on the unit for correct power supply.

2. Turn the power to the unit on. The evaporator (Enclosure or "COLD" air) blower/fan should come on. Is there airflow?
   If yes, proceed to step #3.
   If no, possible: Open motor winding → Repair or replace
   Stuck blower/fan motor → defective parts
   Obstructed wheels/ blades

3. Check thermostat setting? Adjust thermostat to the lowest setting. This should turn the condenser blower/fan and the compressor on. Did condenser blower/fan and compressor come on when the thermostat was turned on?
   If yes, proceed to step #4.
   If no, possible: Defective thermostat → Replace part

4. Are both blowers/fans and the compressor running? If not the unit will not cool properly.

5. Check condenser ( Ambient or "HOT" air ) blower/fan for airflow. Is there airflow?
   If yes, proceed to step #6.
   If no, possible: Defective thermostat → Repair or replace
   Open motor winding → defective parts
   Stuck blower/fan motor
   Obstructed wheels/ blades

6. Carefully check the compressor for operation - motor should cause slight vibration, and the outer case of the compressor should be warm.
   If yes, wait 5 minutes, then proceed to step #7.
   If no, possible: Defective thermostat → Repair or replace
   Defective capacitor
   Defective overload
   Defective relay

7. Make sure the coils are clean. Then check evaporator "air in" and "air out" temperatures. If the temperatures are the same:
   Possible loss of refrigerant → Repair or replace
   Possible bad valves in the compressor → defective parts
8. To check for a bad thermostat. Turn power to the unit off. Remove the cover from the thermostat and place both thermostat wires onto one terminal (replace thermostat cover for safety). This will bypass the switch in the thermostat. Turn the power on. If both blowers/fans and the compressor come on, the thermostat needs to be replaced.

9. The hot gas bypass valve is a standard feature in this air conditioner. The basic function of this component is to prevent the freezing of the evaporator in low or no-load conditions. If this valve is turned all the way in, or is stuck open, it will be partially or fully bypassing and the evaporator will not show much of a difference between the “air in” and the “air out”. To check if the bypass valve is good, back out the hex head bolt (counter clockwise) on the bypass valve until it can be turned with your fingers. Carefully (use caution, lines may be very hot) feel the outlet line of the bypass. If the bypass is working, the line will be warm. If the bypass is not working, the line will be very hot.

### Symptoms and Possible Causes:

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>POSSIBLE CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit won’t cool</td>
<td>* Blowers/fans not running</td>
</tr>
<tr>
<td></td>
<td>* Compressor not running</td>
</tr>
<tr>
<td></td>
<td>* Compressor runs, but has bad valves</td>
</tr>
<tr>
<td></td>
<td>* Loss of refrigerant</td>
</tr>
<tr>
<td></td>
<td>* Bad or leaking bypass valve</td>
</tr>
<tr>
<td>Compressor tries to start but won’t run</td>
<td>* Low line voltage at start. Should be +/-10% rated voltage</td>
</tr>
<tr>
<td></td>
<td>* Compressor motor stuck</td>
</tr>
<tr>
<td></td>
<td>* Bad relay</td>
</tr>
<tr>
<td></td>
<td>* Bad overload switch</td>
</tr>
<tr>
<td></td>
<td>* Bad run/start capacitor</td>
</tr>
<tr>
<td>Unit blows breakers</td>
<td>* Under sized breaker/fuse or not time delayed</td>
</tr>
<tr>
<td></td>
<td>* Short in system</td>
</tr>
<tr>
<td>Getting water in enclosure</td>
<td>* Drain plugged</td>
</tr>
<tr>
<td></td>
<td>* Drain tube kinked</td>
</tr>
<tr>
<td></td>
<td>* Enclosure not sealed (allowing humidity in)</td>
</tr>
</tbody>
</table>