



## **RIGGING INFORMATION & INSTRUCTIONS SEASONS-4 RES PRODUCTS**

**NOTE:  
PLEASE REVIEW THE FOLLOWING  
INSTRUCTIONS CAREFULLY BEFORE  
RIGGING OF ANY UNIT.**

Seasons-4 manufactures RES Series roof mounted HVAC units designed to replace most types of existing units. In addition to a replacement expert having measured the existing units to provide our engineers with the information they need to design the unit, additional rigging assistance is also provided. The following instructions are intended to describe this service and to assist our customers with the installation of their units.

### **RIGGING ASSISTANCE**

1. Seasons-4 provides an experienced person to be on site with the installer during rigging. When the "on site" date approaches, we make arrangements for a person experienced in installing replacement equipment to be at the jobsite when the units arrive. The rigging request form must be sent to the Seasons-4 Service Department at least two weeks prior to the date of the rigging.
2. In the interest of maintaining good customer relationships and addressing any unforeseen problems (existing units weren't always installed in accordance with their manufacturer's recommendations), our Seasons-4 Representatives usually plan to be at the jobsite.
3. "**RIGGING ASSISTANCE**" includes advice on rigging (see below), recommendations for solving unexpected problems uncovered when the existing unit is removed, and offering advice on the proper location of the new unit on the existing curb.
4. Note! Seasons-4 personnel are not responsible for the rigging; they merely offer advice. The installing contractor or owner and their rigger are responsible for properly rigging the units. The riggers are the experts and must know the capabilities of their equipment and the proper procedures for placing the units in the proper location.

## **SAFETY**

It is imperative for the installing contractor to instruct all personnel attending the rigging in proper safety procedures:

1. Under no circumstances shall any person stand below a unit being lifted or removed. Be aware of loose pieces that may fall from the old units.
2. Where it becomes necessary to reach under a unit to remove attached ductwork, see below in the section on duct attachments.
3. If for any reason a person is required to place hands or arms under a lifted unit supported by the crane, the contractor shall insert wood blocks across each corner of the curb. Blocks shall be of sufficient height, length and strength to maintain the unit above the curb. Maintain tension on the lifting straps while using blocks.
4. The contractor shall instruct personnel on the proper use of hard-hats, and other required safety equipment.
5. The contractor shall adhere to all OSHA and code requirements to insure the safety of the public and job-site personnel.

## **PREPARATION for REMOVAL of EXISTING UNITS**

1. Prepare to remove the existing units. Many existing units have lifting lugs which can be used to remove the units. Occasionally the existing lifting lugs will have been removed and new lugs or lifting eyes will have to be provided by the contractor. Check this prior to the arrival of the new units. Avoid the extra cost of delaying the crane on the day the new units are to be rigged.
2. When lifting lugs are inadequate or missing, it will be necessary to lift (by whatever means is appropriate) portions of the unit to allow placing cables under the unit. Be very CAUTIOUS about pieces falling off the old unit while it is being lifted.
3. Make arrangements for an electrician and a control technician to be present during the removal of the old units. Power wiring and control wiring (or tubing) must be properly handled to allow using it with the new units.
4. The rigger must have a crane (or helicopter) with enough capacity to lift the new units (and remove the old units which may be stuck to the curb). Having a properly sized crane may seem obvious; but, several times a year, we observe a poorly prepared rigger attempting to lift a unit using an undersized crane. This results in delays to obtain a larger crane or cobbling up some means of adding additional counterbalances. Not only is this expensive; it can also be dangerous. Seasons-4 submittals include the shipping weights of the units. The rigger should always allow a minimum 10% safety factor to accommodate variations in rigging requirements caused by unexpected jobsite conditions.
5. Disconnect the old unit's wiring, piping, etc.. Disconnect the wiring from the old unit terminals. Do not cut the wiring. It will be reused for the new units. Ducts must be loose prior to lifting units.



**MAKE SURE THE EXISTING DUCTWORK OR THE CURB IS NOT ATTACHED TO THE UNIT.**

6. **CAUTION!** The duct connection on most existing units is a simple gasketed compression fit. However, some existing units have their ductwork attached to the unit in such a way as to prevent detachment while the existing unit rests on the curb. Sometimes the ductwork was screwed to the unit's underside and it was impossible to see this before the existing unit was lifted. Also, they didn't always fasten all the ducts to the unit. Therefore, the following precautions must be exercised:

- A. The contractor shall instruct the crane operator to cable up slowly and carefully when lifting the old unit. Lifting the supply end first is suggested.
- B. The contractor should assign a spotter at the supply air and return air duct locations.
- C. As the cable is lifting the unit, the spotters must immediately communicate if the ductwork is tightly fastened to the bottom of the unit (ducts rising with the unit). If the duct is fastened to the unit, **STOP** the lifting immediately.
- D. The contractor must determine the location, type, and extent of attachments (may require more careful lifting).
- E. When screws have been used to attach the duct, it will be necessary to use a long-handled chisel and a hammer to break off the screw heads. Sometimes it is possible to pry between the bottom of the unit and the duct next to each screw head (shearing off the screw head).
- F. Every effort should be made to avoid cutting the flexible connections. This will require rebuilding the duct prior to setting the new unit.



**DUCTWORK THAT WAS SECURED TO THE UNIT MAY TILT TO THE LEFT OR RIGHT WHERE IT DROPS. SEASONS-4 RECOMMENDS HAVING ANGLES AND S-CLEATS AVAILABLE IN CASE DUCTWORK SHIFTS.**

### **ARRIVAL of the NEW UNITS**

1. The customer must inspect the new units for damage prior to accepting the shipment and clearly describe any damage on the bill of lading. **Note:** This inspection should include looking inside the unit for damage. Do this before signing the bill of lading and have the driver acknowledge the damage. Contact Carol Johnson at Seasons-4 (770-489-0716) and report the extent of the damage. Also, send a copy of the bill of lading to her for use in discussions with the trucking company.
2. Find and remove the curb gasket material (and drive cleats and duct angles when included) which is shipped in the unit (a label on the unit tells the location). Send these items up to the location of the unit being replaced. They will be needed when the existing unit is removed and prior to setting the new unit.

### **PREPARATION FOR SETTING THE NEW UNITS**

1. The rigger should have proper rigging materials -- long enough straps or cables, spreader bars, different sized shackles, and "scuff" blocks. Note: Spreader bars (or cables a minimum of 40 feet long) must be used to avoid damage to the new unit. Damage to the unit during rigging is the responsibility of the rigger.
2. Seasons-4 units include multiple lifting lugs. Use them all. The units must be lifted level. Adjust the rigging to provide a level lift. If the unit is not level, it will be very difficult to properly locate it on the existing curb.



**PREP AND CLEAN THE EXISTING CURB, REMOVE OLD CURB GASKET AND REPLACE WITH NEW CURB GASKET PROVIDED BY SEASONS-4.**

3. Remove the existing units. Scrape existing gaskets from curb and ducts to provide a clean surface for the new gaskets.
4. Make certain the existing ducts are properly supported. If supports are required for the existing ducts, sheetmetal angles can be used. It is the responsibility of the installing contractor to provide adequate support for the existing ducts.



**THE SUPPLY AND RETURN DUCTS MUST BE LEVEL AND SECURED TO THE TOP OF THE CURB IN THEIR ORIGINAL LOCATIONS. PROVIDE TWO LAYERS OF GASKET ON SUPPLY (EACH ZONE) AND RETURN DUCT OPENINGS, AND ONE LAYER ON THE CRUB PERIMETER TO SEAL THE CURB TO THE BOTTOM OF THE UNIT.**

5. The seal between the existing ducts and the new units is a compression fit; therefore, the ducts must be properly supported and must be flush with the top of the roof curb. The bottom of the Seasons-4 units is designed for the supply and return ducts to be flush with the top of the roof curb. Install a layer of gasket material around the curb and around each duct. Use two layers if necessary to insure a good seal.
6. Some existing units may have the condensing section installed over a weatherproof platform. Rubber/cork pads will be included with the new Seasons-4 unit to build up this platform to provide a level surface. The Seasons-4 specialist can advise on the proper location of these pads.

### **RIGGING & SETTING the UNIT**



**UNIT WILL ARRIVE ON FLAT-BED TRUCK. USE ALL LIFTING LUGS TO RIG THE UNIT.**

1. Prepare unit for rigging. Remove shipping straps used to secure access doors during shipment. If rigging straps or cables pass in front of the control panel door, the return air compartment door, or a ChW/HW/Steam piping access door, open the doors prior to connecting the rigging. Access to the inside of the control panel is necessary to guide the power wiring into the unit during final setting. Access to piping may also be necessary. It is also necessary to view the return air duct.



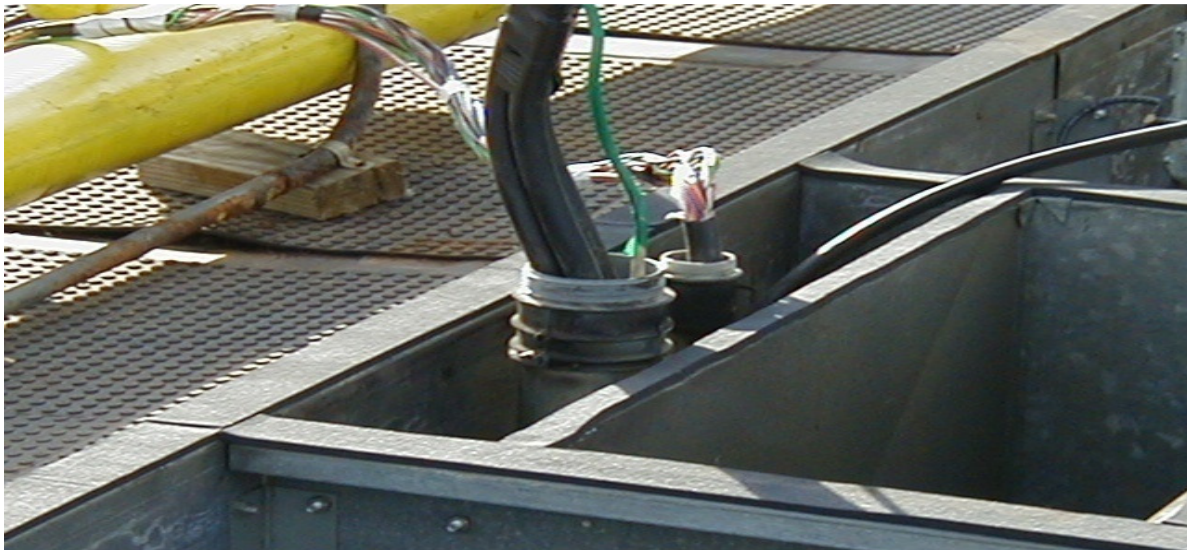
**IF SPREADER BARS ARE USED, THEY MUST BE 4 FEET WIDER THAN THE UNIT.  
IF STRAPS ARE USED, THEY MUST BE AT LEAST 40 FEET LONG.**

2. Check rigging. Spreader bars or 40 foot straps must be used to lift the unit. Check to make sure lifting cables or straps are clear of door handles and/or louvers. Use "scuff" blocks if necessary to prevent damage to the unit. Lift the new unit to the vicinity of the old unit's curb.



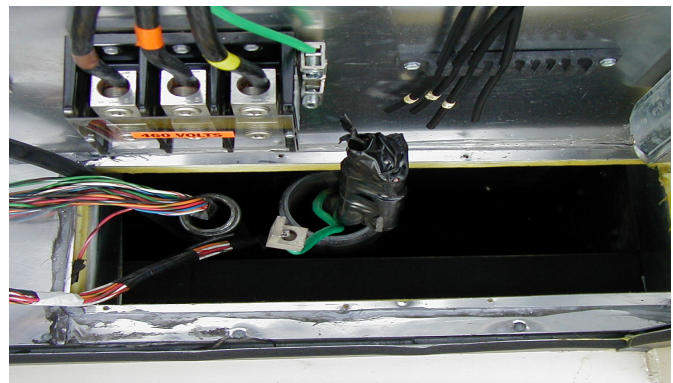
**LOWER THE UNIT TO A FOOT ABOVE THE CURB. REMOVE THE ZONE PANEL LOCATED AT THE ZONE SECTION TO VIEW THE INDIVIDUAL ZONES BEFORE SETTING THE UNIT ON THE CURB.**

3. Lower the new unit to within a foot of the curb. Remove the casing panel located under the zone damper control access doors or on the sides of the unit to allow viewing the individual zones prior to trying to set the unit on the curb. If the new unit has a ducted return air connection, make sure the access door to the return air opening is free of the lifting cables or straps. Check to make certain that none of the access doors outlined above are blocked shut by the lifting cables or straps. You must be able to open them when setting the new unit.



**PREPARE THE UTILITY CONNECTIONS AND POWER WIRES TO INSERT THROUGH THE NEW UNIT POWER CHASE.**

4. Remove the plate from the bottom of the wiring chase(s) and pull the power and control wiring into the unit. Be careful to avoid "skinning" the wiring and make sure it doesn't fall back down inside the curb. Check alignment of any piping connections.



**PROCEED WITH LOWERING THE UNIT INTO PLACE. CHECK DUCT ALIGNMENT AND POWER CONNECTION ALIGNMENT. MAKE ADJUSTMENTS TO ASSURE PROPER SEALING OF THE DUCTS TO THE UNIT. ALL CHASES MUST BE CAPPED AND SEALED BEFORE START-UP.**

5. Proceed with lowering the unit into place. Check duct alignment (both supply and return air). Make adjustments to assure proper sealing of the ducts to the unit.



**REMOVE THE RIGGING AND REPLACE THE END ZONE PANEL. CAULK THE END PANEL TO ASSURE A WEATHER-TIGHT SEAL. CONNECT THE POWER, CONTROLS, GAS (IF APPLICABLE) CONNECTIONS.**

6. Remove the rigging and replace the end panel used to view the zone connections. Caulk the end panel to assure a weather tight seal.

The unit is now ready for completion of the installation. **See "Installation & Start-up Instructions – Seasons-4 Products"** included with the unit.