

It starts
here.

ONE

JOYGLOBAL

Installation Training

- **By the end of this training you will be qualified to install the Mine Air RCC air conditioning system to manufacturers specifications**
- **Installation topics include:**
 - RCC location choices, line set and power cable routing, and best practices for ensuring long system life



Standard Issues Leading to Failure

- **The number one cause of unit failure is improper installation**
 - Improper charging techniques (pressure test, evacuation, charge amount)
 - Loose fittings
 - Vibrations causing hose wear and leaks
 - Electrical connections shorting out
- **The number two cause of unit failure is poor location choice**
 - Overly muddy or dusty location
 - Blocked condenser coil
 - Compressor oil return issues

RCC Location Choices

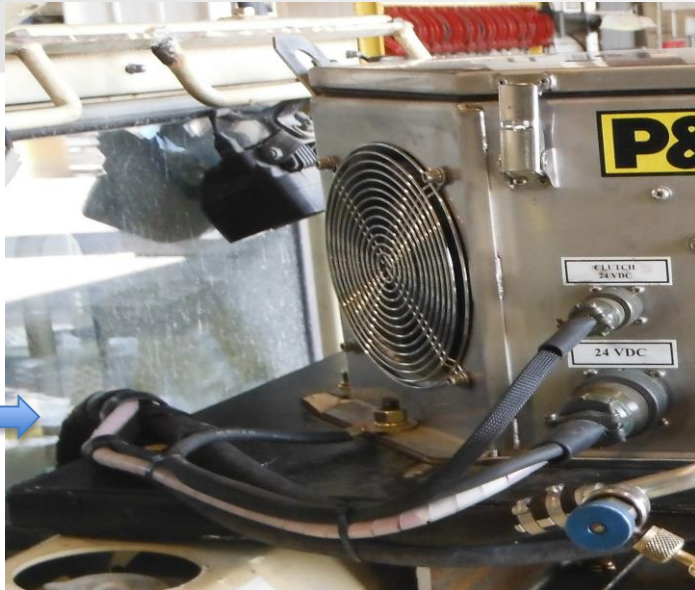
4 Things To Keep In Mind

- 1.** Try to place the RCC as close to the operators cab as possible
- 2.** ROPS/FOPS cab certifications have to be considered
- 3.** Ease of routing power cable and line-set
- 4.** Make sure to not obstruct operators view or access panels



Power Cable & Line Set Routing

- 1. Always ensure all lines are secured and wrapped to protect from wear points caused from vibrations.** (ie. Zip-ties, protective covers, hose clamps, spiral wrap etc.)
- 2. Route the line set keeping it as short as possible**
- 3. Route the power cable to the closest available 24 VDC source while keeping it protected from wear points**



Other Possible Concerns

- 1. Does the unit require a custom bracket**
- 2. With other trades be required**
 - welders
 - electricians
- 3. Will the installation affect other areas of the equipment**
- 4. Does the alternator have enough capacity**
- 5. Does the heat control valve leak (therefore fighting the A/C)**
- 6. Double check the refrigerant hoses to ensure proper protection**

***EVERY A/C SYSTEM IS ONLY AS STRONG
AS ITS WEAKEST LINK***

Best Practices for Ensuring Long System Life

1. Always follow pressure testing, evacuation, and charging procedures
2. If installing on CAT equipment always change the filter dryer/orifice
3. When installing refrigerant fittings always lube the O-rings with polyolester oil and tighten to manufacturer specifications of 18ftlbs on the compressor fittings, 28ftlbs for all other fittings.



Job Planning

Safety Considerations

perform FLRA and ensure all safety procedures are followed

- **Equipment walk-around**
 - ie. Visual inspection for power cable / line set routing and RCC location/mounting
- **Inspection of OEM evaporator and refrigerant fittings**
 - ie. What size fittings and where will you tie into the control power
- **Ensure other trade requirements are accounted for**
 - Welders
 - Electricians
 - Refrigerant Handling

Recommended Installation Sequence

- 1. Have welder install mounting hardware**
- 2. If required have electrician run power / control cables**
- 3. Install refrigerant line set, pressure test, and evacuate**
- 4. Install RCC onto mounting hardware**
- 5. Connect refrigerant line set and power / control cables**
- 6. Add 2 lbs of R134a liquid refrigerant to the high side**
- 7. Remove LOTO and run A/C system for 15 minutes before adjusting the refrigerant charge (with vapour R134a to the suction side) to 10C of sub-cooling for TXV systems**
- 8. For CAT fixed orifice systems charge to 6C superheat**
- 9. Run for another 15 minutes and re-check your readings and adjust as required**
- 10. High five to a good job!**

QUESTIONS?

