Field Splitting Procedure

1. Open compressor suction and discharge valves, in each compressor if applicable.

2. Manually open solenoid valve. Push the black button and rotate lever until it aligns with the tube. (Figure 1).

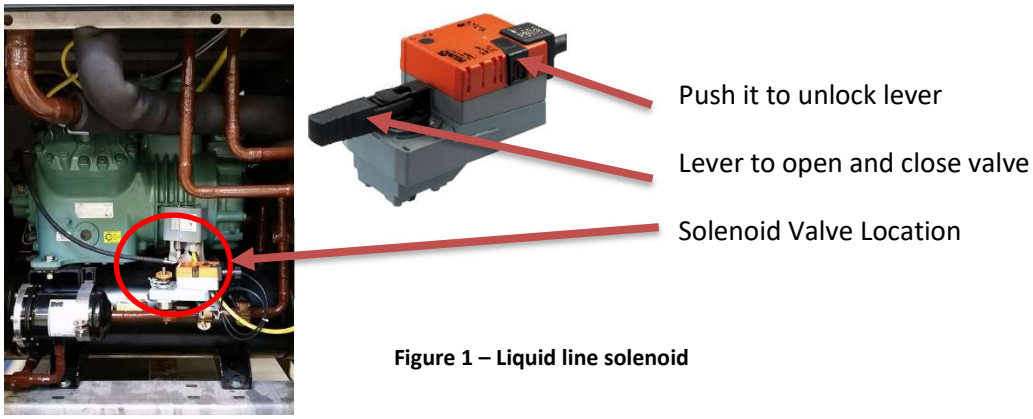

Figure 1 – Liquid line solenoid

3. Evacuate the system using the condenser access fitting to a recovery cylinder.

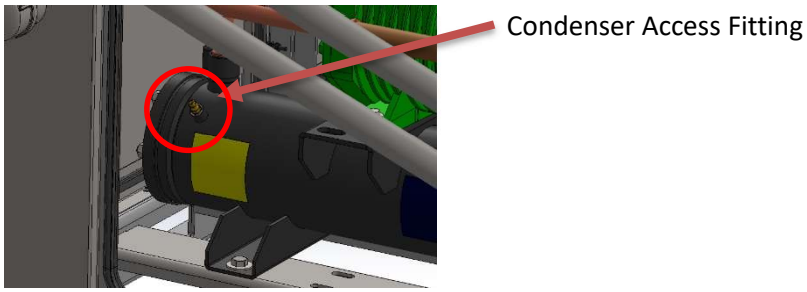

Figure 2 – Condenser access fitting

4. Remove bottom right side door to allow access to the copper tubes. If necessary also remove sheet metal piece above bottom door. Depending on the electrical box configuration, this piece can have wire going through it. Leave the wires through it and move the panel away from the refrigerant line to allow access to the copper tubes.

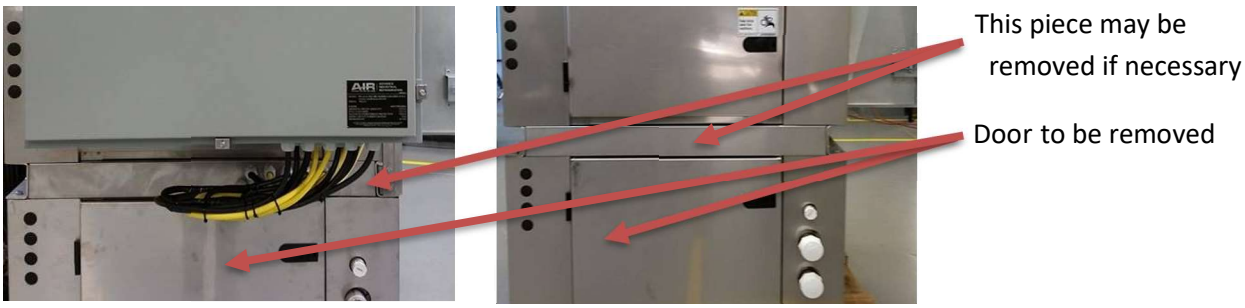

Figure 3 – Access door for pipe lines

5. Remove insulation from suction line and cut suction and liquid line pipes according to the picture below. Leave a ¼" gap between pipes and a minimum clearance of 2-1/8" from the face of the cut to the next component in the line on both sides. Do not let chips of metal drop inside the pipe during cutting process, as this may cause damage to the system. Cap all pipes with vinyl cap or similar to prevent entry of foreign materials.

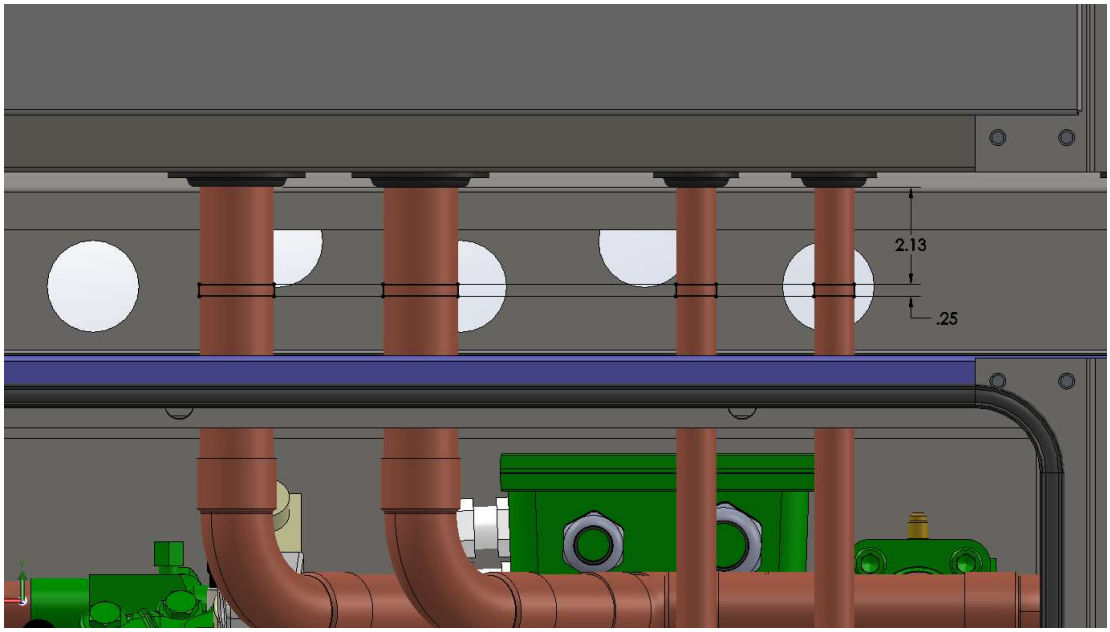

Figure 4 – Suction / Liquid line – Cutting scheme

6. Inside the main electrical panel, remove the cables for the compressors power located on the bottom right corner. Remove only the terminations on the bottom of the contactors which correspond to the cable terminations coming from the bottom section (Figure 5, Item 1). Remove also the ground cables.

7. Remove the cables for the digital and analog signals coming from the bottom section (Figure 5, Item 2). These are 2 cables with termination on the 100's terminals (101 to 125). The digital signals are located on the top tier (101 to 125) and the analog signals are located on the bottom tier (101 to 118).

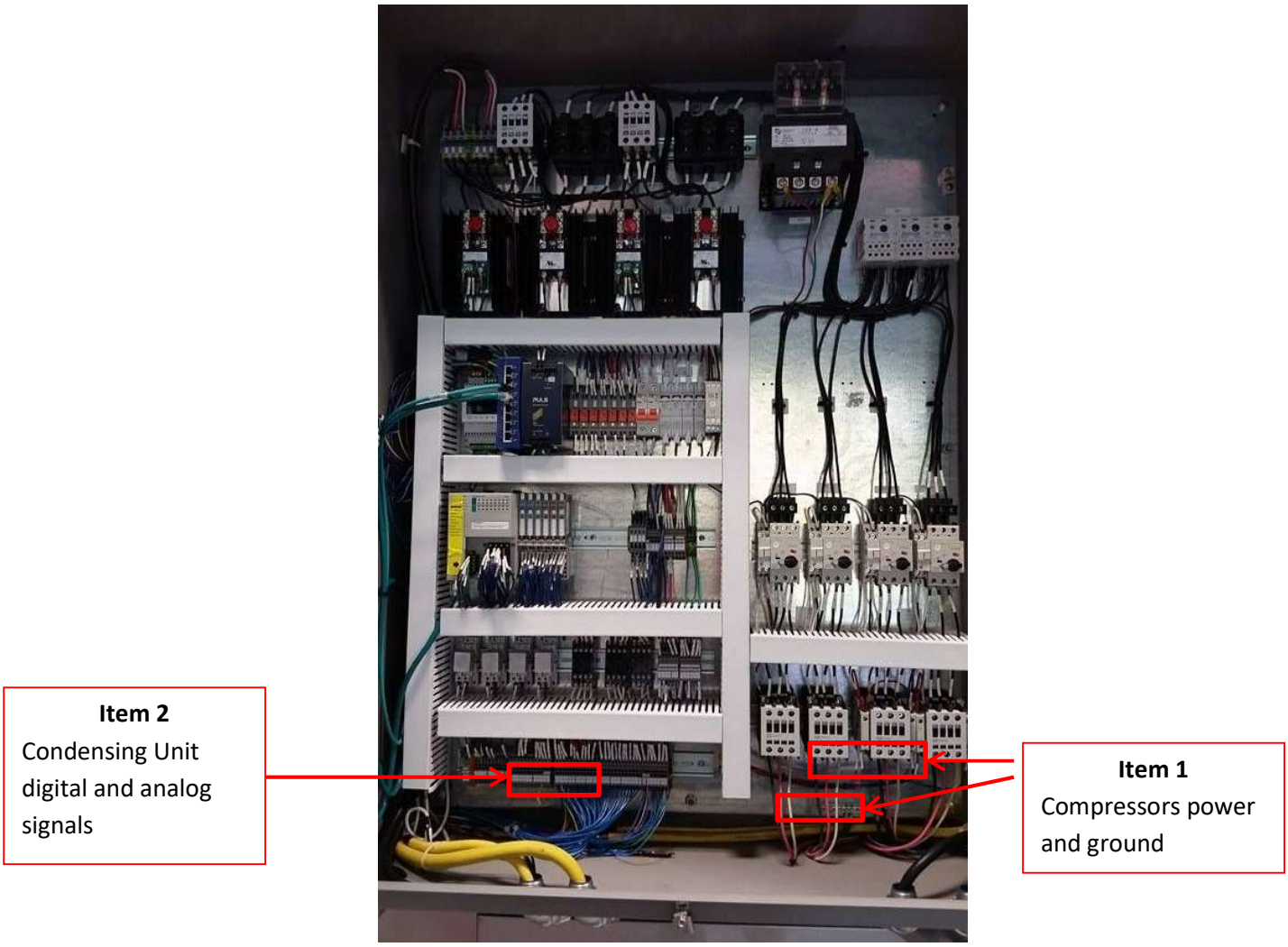

Figure 5 - Main Control Panel

8. Carefully remove any zip ties attached to these cables inside the panel.

9. Loosen the fitting and pull the cables out of the panel. Depending on the serial number, some fittings are Metal Liquid Tight (Figure 6) or Compression Liquid Tight (Figure 7).

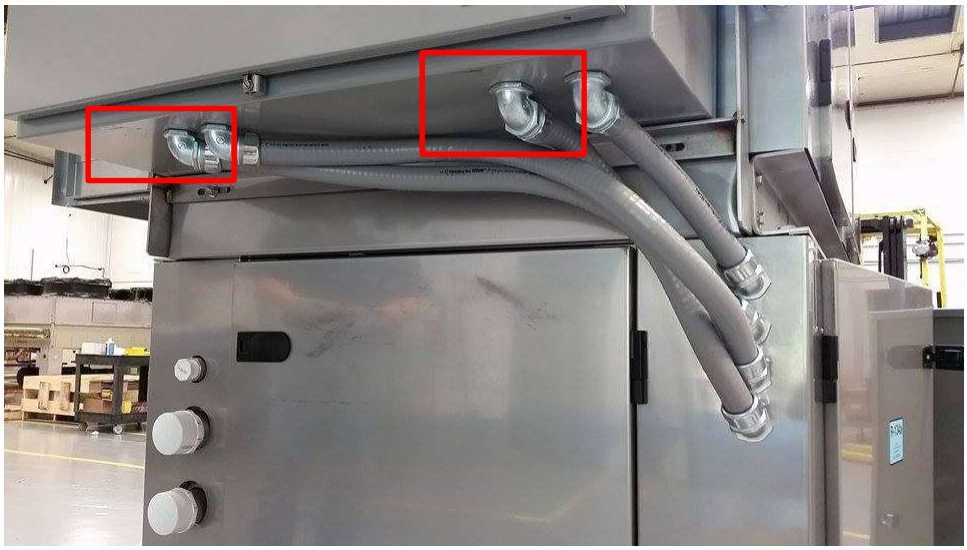

Figure 6 - Electrical fittings for bottom section (condensing unit) – Metal Liquid Tight

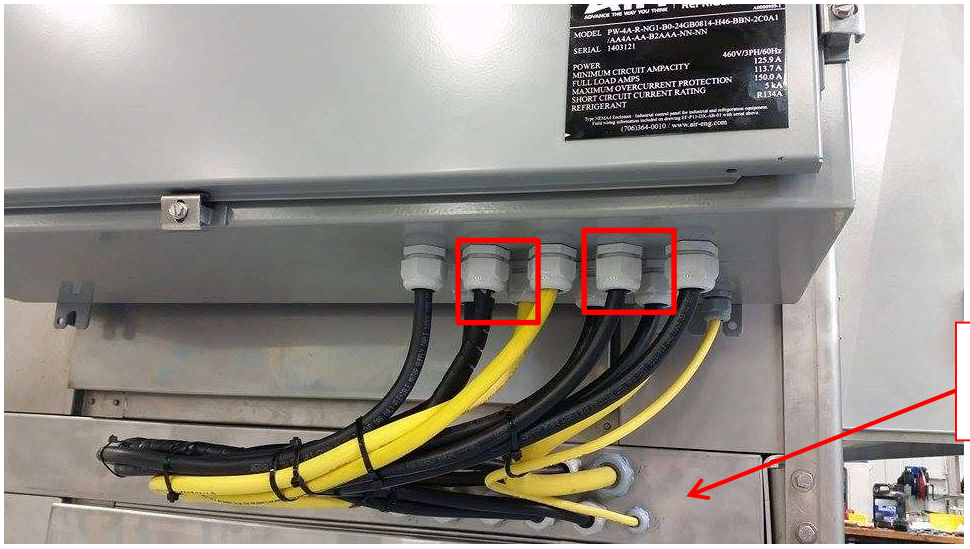

Figure 7 - Electrical fittings for bottom section (condensing unit) – Compression Liquid Tight

10. If the design has Compression Liquid Tight type fittings, the cables pass thru a mid-panel which is attached to the top section. Cut the Zip ties and loosen these fittings as well and remove the cables from the mid-panel (Figure 7). Remove only the cables that are necessary (cables removed on steps 6 and 7 above).

11. Remove all the bolts (Figure 8) in the front and back side of the machine. Lift and move air handling section from compressor section. If copper pipes were cut below the bottom of the frame, sit the frame on stands with enough height to avoid damage to copper tubes.

Figure 8 – Front side connection bolts

Field Re-assembling Procedure

1. Braze a refrigeration grade copper coupling to the suction and liquid line of the compressor section (Figure 9). See Material and Brazing sections for more information.

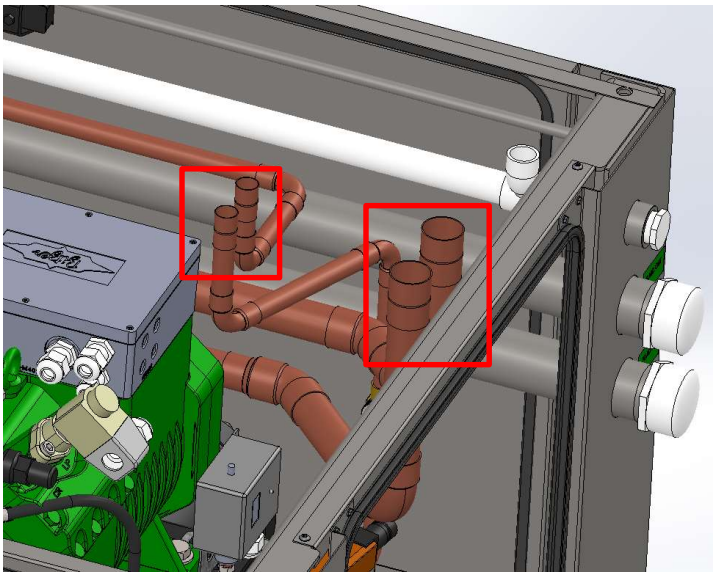

Figure 9 – Copper Couplings

2. Sit Air Handling section on the top of the Compressor Section and guiding the suction and liquid line from the top section to the copper couplings. Torque all the connection bolts (Figure 8) to 75 ft lbs.

3. Braze copper tubes to couplings. See Materials and Brazing Joints section for more information.

4. Insulate suction line, see "Materials" section for more information.

5. Manually open solenoid valve. Push the black button and rotate lever until it align with the tube. (Figure 1).

6. Use condenser access fitting (Figure 2) to pull vacuum, target vacuum pressure 500 microns.

7. Recharge the system with the specified refrigerant through the ball valve access fitting.

8. Reconnect all cables executing steps 7 to 10 from "Field Splitting Procedure" section in reverse order.

Materials

1. Copper Tube and Fittings

    a. For installations with R134a, utilize commercial copper tubing Type K (heavy wall) or Type L (medium wall). For brazed or soldered joints, the material shall be forged brass or wrought copper.

    b. Drawn-Temper Copper Tube: follow ASTM B 280, Type ACR (Air-Conditioning and Refrigeration), clean, dry, and capped.

    c. Annealed-Temper Copper Tube: follow ASTM B 280, Type ACR, clean, dry, and capped. Annealed copper tubing must not be used for piping with an outside diameter (O.D.) larger than 0.625".

    d. Wrought-Copper Fittings: follow ASME B16.22 (elbows, couplings, etc.).

    e. Bronze Filler Metals: follow AWS A5.8, Classification BAg-7 (50% silver), BCuP-5 (15%silver).

2. Pipe Insulation

    Consider the use of materials with the following properties:

    a. Flame spread index of less than 25 and a smoke-developed index of less than 50 when tested in accordance with ASTM E84. In addition, it shall not melt or drip flaming particles, the flame shall not be progressive and all material shall pass simulated end-use fire tests.

    b. Materials with a maximum thermal conductivity of 0.27 Btu-in/h-ft^2-°F at a 75°F mean temperature when tested in accordance with ASTM C177 or ASTM C518.

c. Materials shall have a maximum water vapor transmission of 0.08 perm-inches when tested in accordance with ASTM E 96.

d. UV resistant material when directly exposed to sunlight.

Brazing Joints

1. Tubing must be cut square, reamed, and have burrs removed.

2. The inside of fittings and outside of tubing must be well cleaned with an abrasive cloth or stainless steel wire brush before brazing. Steel wool is not recommended.

3. During brazing, an inert gas (such as dry nitrogen or argon) must be passed through the system continuously at a flow rate sufficient for maintaining an oxygen-free environment to prevent the formation of copper oxide scale.

4. Take care to prevent damage to fittings and tubing caused by overheating when making connections.

5. Copper-to-copper joints must be brazed with a copper-phosphorous brazing alloy containing a minimum of 15% silver and conforming to AWS A5.8, BCuP-5.

6. Copper-to-brass joints must be brazed with a silver brazing alloy containing a minimum of 50% silver and conforming to AWS 5.8, BAg-7.

7. Copper-to-stainless-steel joints must be brazed with a silver brazing alloy containing a minimum of 50% silver and conforming to AWS 5.8, BAg-7.

8. All brazed joints must be cleaned to remove residual flux.

9. If applicable, when brazing, remove solenoid-valve coils and sight glasses; also remove valve stems, seats, packing, and accessible internal parts of refrigerant specialties. Do not apply heat near expansion valve bulb. Joints must be cool before reassembling valve.