SUCTION LINE ASSEMBLY & ACCUMULATOR P/N 631500260

INSTALLATION INSTRUCTIONS

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Revision Date: March 18, 2014

Revision: C

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The products, technical information, and instructions contained in this manual are subject to change without notice.

These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

This Product is warranted only as provided in Cornelius' Commercial Warrant applicable to this Product and is subject to all of the restrictions and limitations contained in the Commercial Warranty.

Cornelius will not be responsible for any repair, replacement or other service required by or loss or damage resulting from any of the following occurrences, including but not limited to, (1) other than normal and proper use and normal service conditions with respect to the Product, (2) improper voltage, (3) inadequate wiring, (4) abuse, (5) accident, (6) alteration, (7) misuse, (8) neglect, (9) unauthorized repair or the failure to utilize suitably qualified and trained persons to perform service and/or repair of the Product, (10) improper cleaning, (11) failure to follow installation, operating, cleaning or maintenance instructions, (12) use of "non-authorized" parts (i.e., parts that are not 100% compatible with the Product) which use voids the entire warranty, (13) Product parts in contact with water or the product dispensed which are adversely impacted by changes in liquid scale or chemical composition.

Contact Information:

To inquire about current revisions of this and other documentation or for assistance with any Cornelius product contact:

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800-238-3600

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CORNELIUS INC
101 Regency Drive
Glendale Heights, IL
Tel: + 1 800-238-3600

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SAFETY INSTRUCTIONS

SAFETY

WARNING:
Before starting installation, read and understand all safety label and warnings on the machine. Also review and understand all safety instructions in the owners, installation and service manuals.

Failure to comply could result in serious injury, death or damage to the equipment.

QUALIFIED SERVICE PERSONNEL

WARNING:
Only trained and certified electrical, plumbing and refrigeration technicians should service this unit.

All wiring and plumbing must conform to national and local codes. Failure to comply could result in serious injury, death or equipment damage.

SAFETY PRECAUTIONS

This unit has been specifically designed to provide protection against personal injury. To ensure continued protection observe the following:

WARNING:
Disconnect power to the unit before servicing. Follow all lock out/tag out procedures established by the user. Verify all power is off to the unit before performing any work.

Failure to comply could result in serious injury, death or damage to the equipment.

CAUTION:
Always be sure to keep area around the unit clean and free of clutter.

Failure to keep this area clean may result in injury or equipment damage.

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INSTALLATION INSTRUCTIONS

This kit applies to the XRC630, XRC830, or XRC1030 Remote Condenser X Series Ice Maker.

WORK OVERVIEW

1. Disconnect power. Shut off water supply.
2. Remove exterior panels. Recover refrigerant in system.
3. Disconnect condenser line kit. Disconnect electrical harnesses and remove structural panels.
4. Remove existing piping assemblies.
5. Place and braze new piping assemblies. Leak test unit.
6. Insulate critical components, replace structural panels, and reconnect electrical harnesses.
7. Reconnect condenser line set. Evacuate system and recharge with refrigerant.
8. Run test unit.
9. Replace exterior panels.

PARTS LIST

Item No.	Part No.	Description	Qty.
1	630001132	Liquid Line with Filter Drier	1
2	630001133	Suction Line Compressor to Accumulator	1
3	630001173	Suction Line Heat Exchange Assembly	1
4	163506001	Wire Tie - 7"	3
5	169225015	10” Insulation line – 3/4” ID	1
6	630900972	Insulation Tape Kit - Expansion Valve Bulb	1
7	164005001	1/8” POP Rivet - Stainless	1
8	630001130	Foamed Accumulator Assembly	1

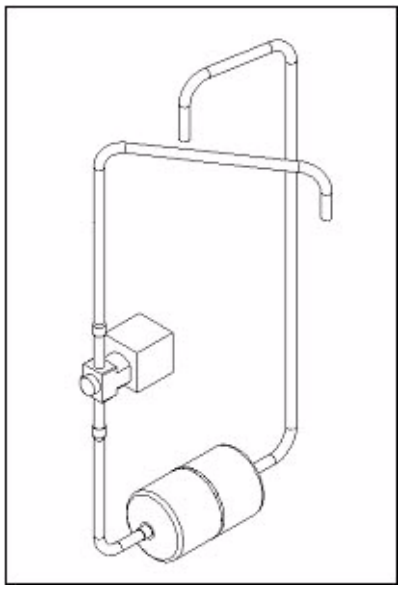

Figure 1. Item 1

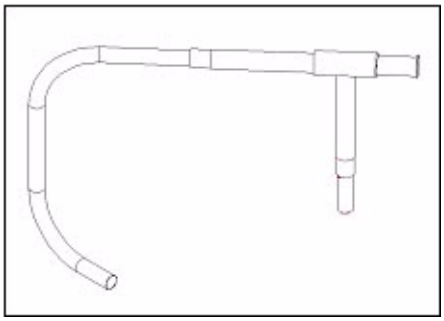

Figure 2. Item 2

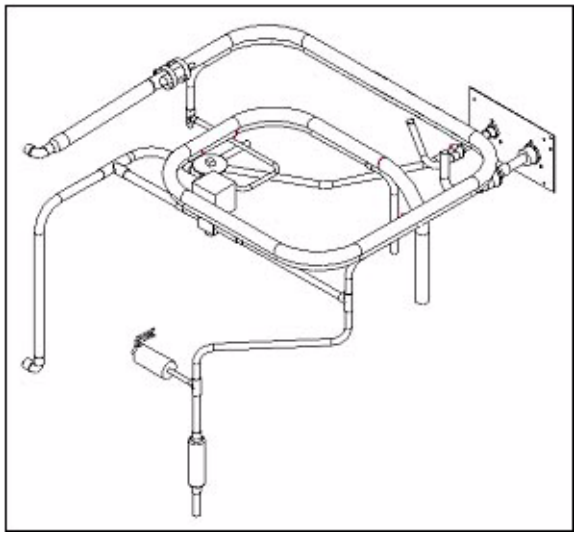

Figure 3. Item 3

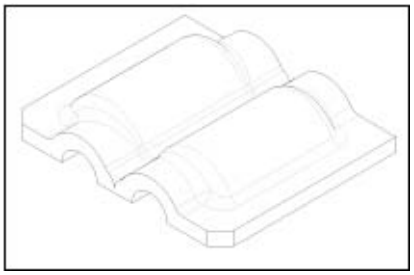

Figure 4. Item 6

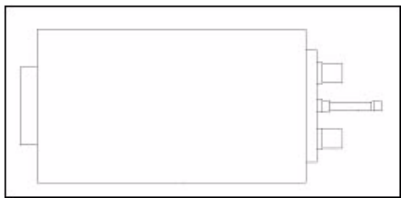

Figure 5. Item 8

General Work Guidelines

1. Read and understand all instructions before starting.
2. Disconnect all electrical power from unit prior to beginning work.
3. Shut off water supply to unit prior to beginning work.
4. Prepare work area so that no brazing material, dirt, metal shavings, or other objects / refuse will enter the ice storage area.
5. Save all screws, nuts, bolts, grommets, or other hardware.
6. Work is to be performed by a trained, EPA certified refrigeration mechanic.

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INSTALLATION INSTRUCTIONS

1. Shut Off Water Supply.
2. Remove the front panel cover (A), top cover (B), and louvered side panel (C) (Figure 6).

WARNING:
If the compressor has burned-out, there is a refrigerant leak, moisture is present, or contaminates or other non-condensables are in the system, the refrigerant recovered from this unit may **NOT** be reused in this product until it has been reclaimed to meet ARI Standard 700-88.

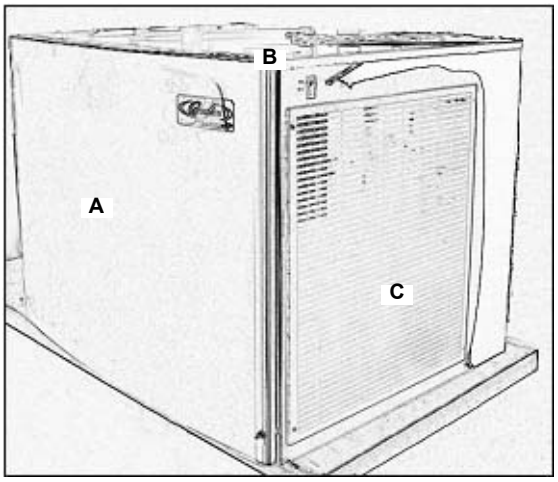

Figure 6.

3. Remove the evaporator splash panel (D) and control box cover (E) [not shown] (Figure 7).
4. The icemaker and accessories should be charged with 180 ounces (XRC630, 830, 1030) of R-404A (HP-62). Regardless of the condition of the refrigerant, it must be recovered (as defined in ARI Standard 740-91) from the system, including the remote condenser and line set.

The refrigerant type and charge are indicated on the serial plate, located on the water pan (F) (Figure 6). This charge amount does **NOT** include that which is normally present in a factory charged condenser or line set.

USE ONLY RECOVERY EQUIPMENT DESIGNATED FOR USE WITH R-404A (HP-62) REFRIGERANT.

Comply with all federal regulations concerning the handling of refrigerants.

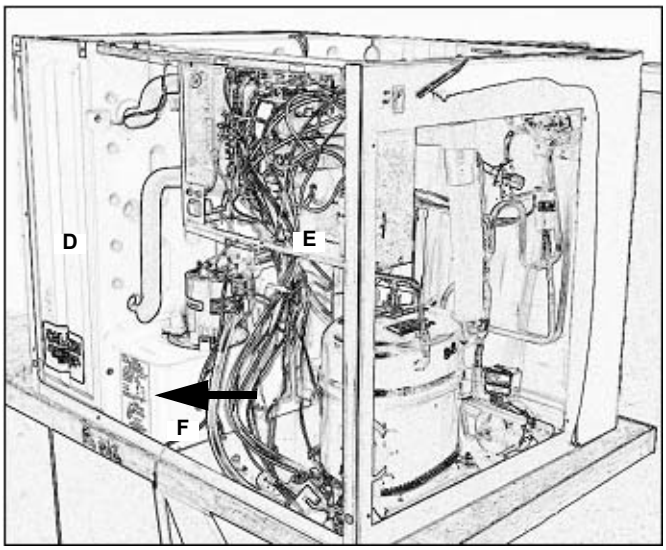

Figure 7.

5. Drain the evaporator water pan (A) by removing the drain cap (B) (Figure 8), behind the bottom metal evaporator support.

DO NOT drain the water into the ice storage area, unless the area is completely free of ice.

Replace the drain cap and metal support (not shown).

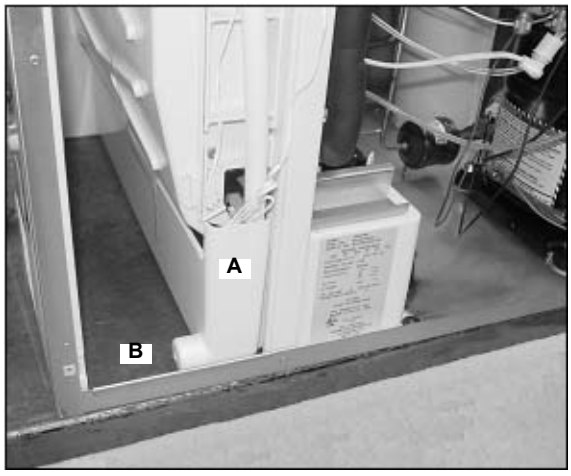

Figure 8.

6. Disconnect the electrical plug from the Water Fill Valve (C) and Water Dump Valve (D) (Figure 9).

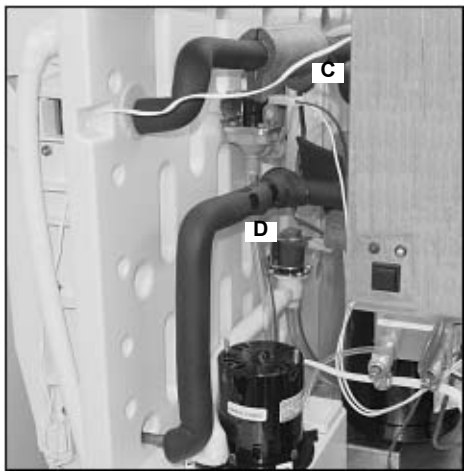

Figure 9.

7. Disconnect the Water Pump plug (E) and Transducer Pressure Hose (F) (Figure 10).

WARNING:
The water pump motor must be protected from water splash. DO NOT introduce water into the motor housing. Warranty on water pump is VOID if water damaged.

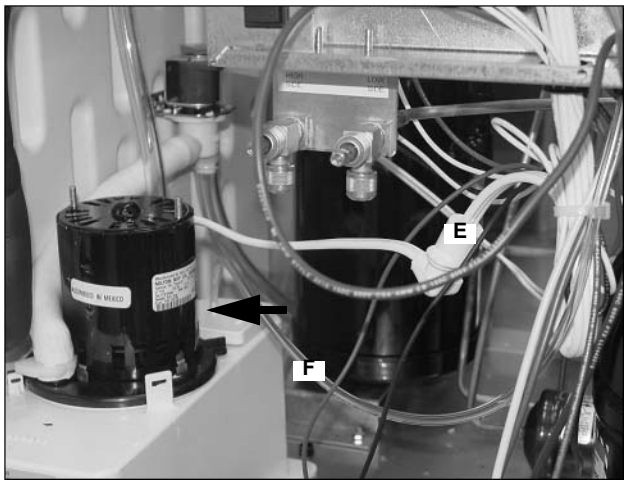

Figure 10.

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8. Disconnect the plugs from the Hot Gas Solenoid Valve (Figure 11) and Liquid Line Solenoid Valve (Figure 12) by the filter drier.

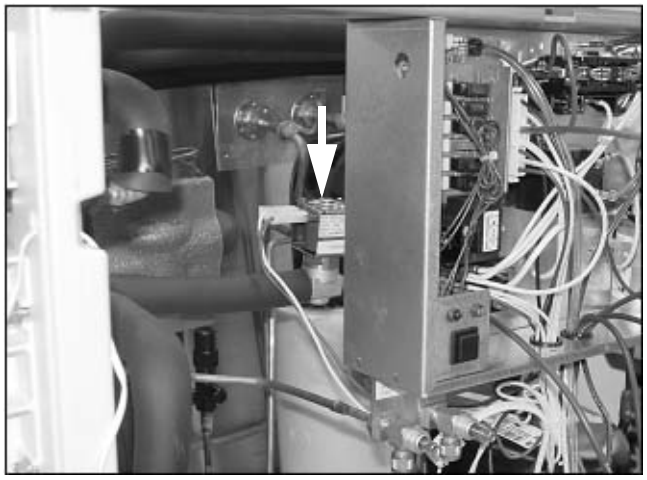

Figure 11.

Figure 12.

9. Remove the compressor junction box cover (Figure 13) and disconnect all electrical leads (Figure 14).

Figure 13.

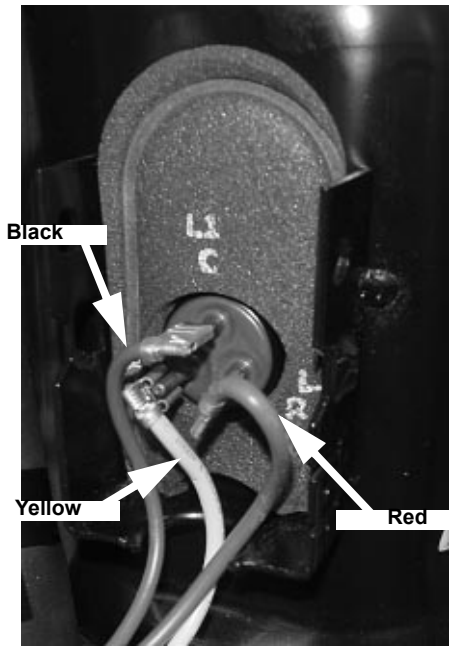

Figure 14.

10. Disconnect and remove the leads from the junction box for the:
    (Figure 15) Curtain Switch (A) – white low voltage plug harness (Control board)
    (Figure 16) Crankcase heater (B and C) – black leads (both on line side of contactor)
    (Figure 17) High Pressure Cutout (D and E) – 2 blue wires (Contactor and #5 pin on control board).

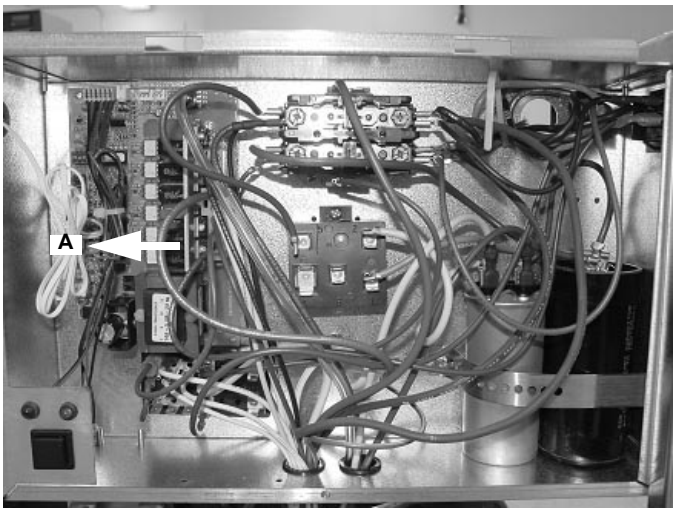

Figure 15.

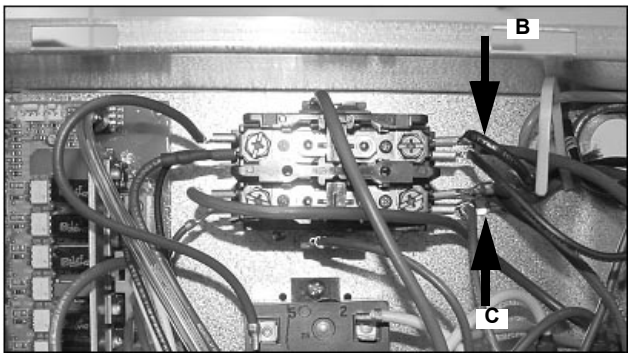

Figure 16.

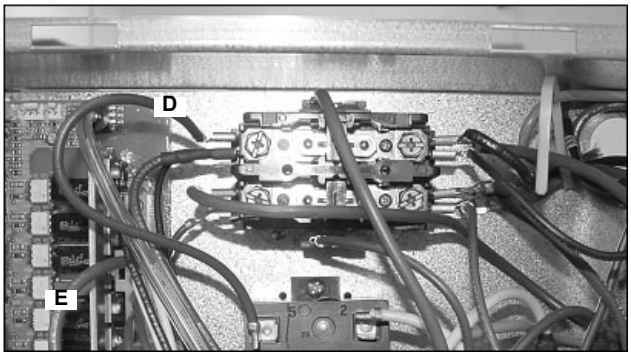

Figure 17.

11. Remove the 2 screws connecting the service valve bracket (A) to the control box (Figure 18).

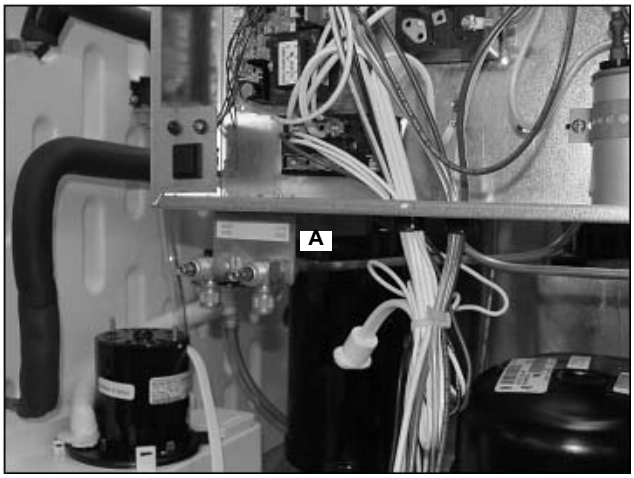

Figure 18.

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12. Remove the 2 screws connecting the top support brace (B) to the evaporator bulkhead (Figure 19).

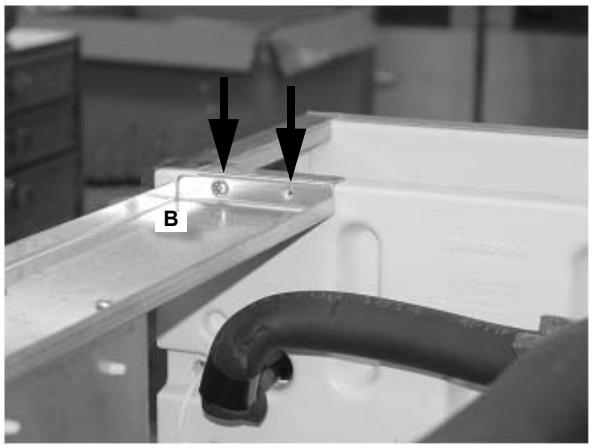

Figure 19.

13. Drill out the rivet attaching the right side panel to the base (Figure 20) A 1/8” drill bit is recommended.

Figure 20.

14. Remove the 5 screws attaching the right side panel to the rear panel.
    Remove the 4 screws attaching the Aeroquip valve bracket (A) to the back panel.
    Remove the 4 screws on the back panel at the receiver bracket (Figure 21).
15. Lift and set aside the right side panel, control box, and support brace assembly.
16. Clip the wire tie securing the internal water line (B) to the suction line assembly. Remove the 6 screws attaching the back panel to the left wrap panel (Figure 21).
    If the supply water connection allows, place the rear panel on top of the evaporator bulkheads, leaving the supply water connected.

If the supply water line is not flexible, it may have to be disconnected from the rear panel fitting (see inset).

It is not necessary to disconnect the internal water line (connecting the rear panel fitting to the fill valve).

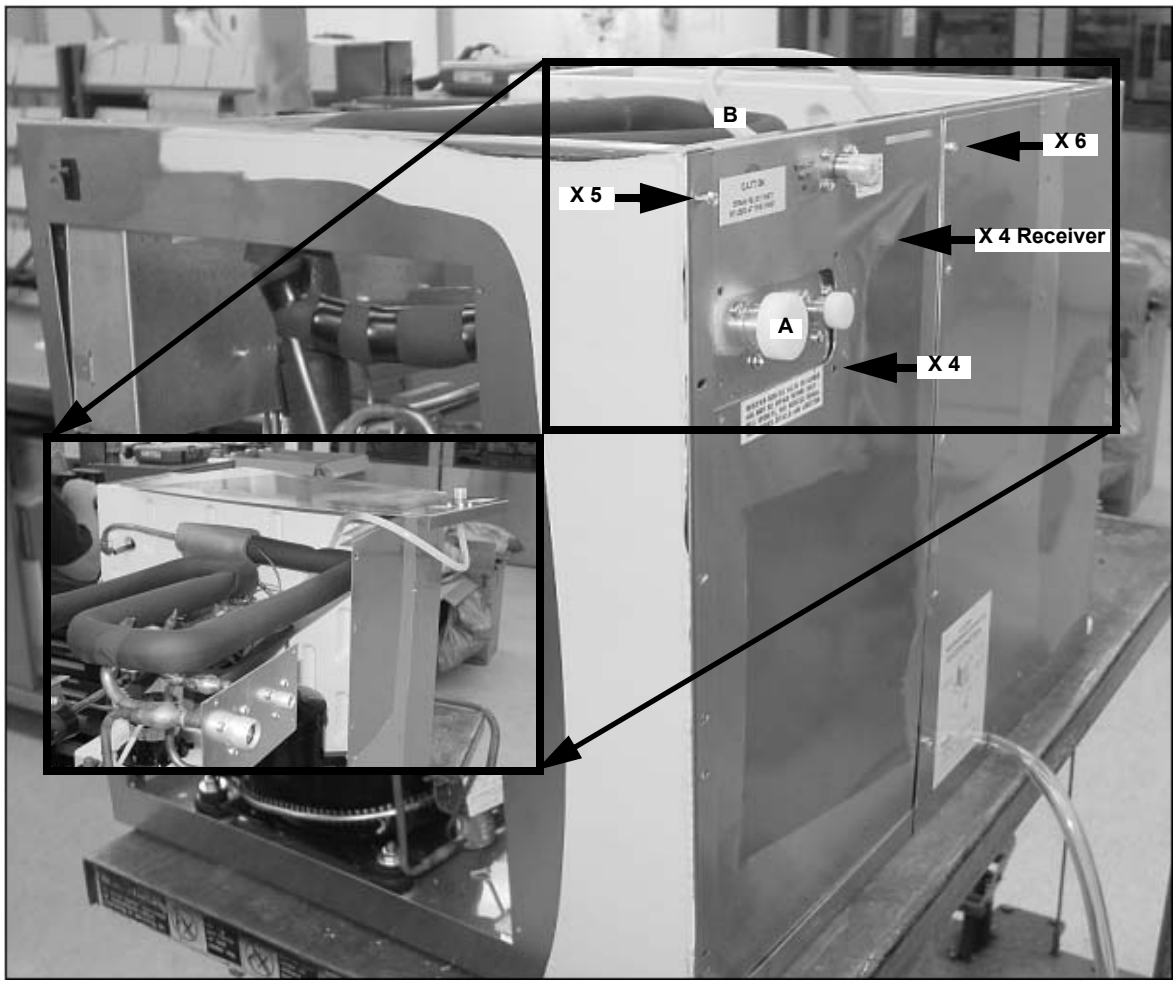

Figure 21.

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17. Remove the bulkhead seals at the front of the evaporator assembly. Remove the insulation from the evaporator inlet and outlet lines (Figure 22). Remove enough insulation to safely disconnect these lines.

WARNING:

I. All plastic, electrical, or sensing components, assemblies, or harnesses must be protected when heating the refrigeration lines. Failure to take appropriate actions may result in damage to the unit.

II. THE REFRIGERANT IN THE SYSTEM SHOULD BE RECOVERED AND THE SYSTEM PURGED WITH NITROGEN PRIOR TO ANY BRAZING OPERATIONS. Failure to take appropriate actions may cause damage to the unit and result in personal injury or death.

18. If the refrigerant in the system has been fully recovered, open the high side service valve.

Attach a nitrogen feed (A) to the low side service valve (5-10 psi) (Figure 22).

Open the low side service valve to purge the system with nitrogen.

As power to the unit has been disconnected, disassemble the hot gas valve to allow nitrogen to flow through the entire system (Figure 22).

19. Protecting the water pump and plastic bulkhead from heat, remove the evaporator piping at the bulkhead, including the 90° elbow fittings (Figure 23).

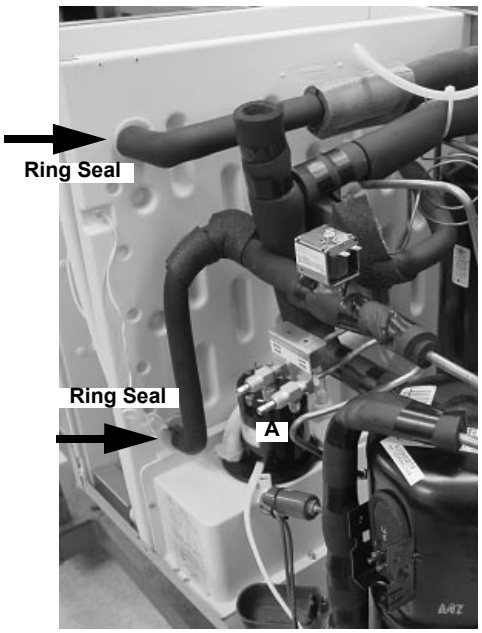

Figure 22.

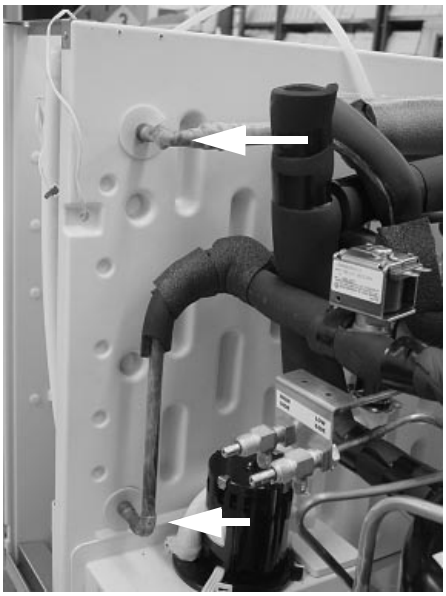

Figure 23.

20. Move the nitrogen feed to the service port (A) on the receiver. Open the service valve (Figure 24) and protecting the plastic bulkheads and the water valve, remove the connections to the receiver (Figure 25).

Figure 24.

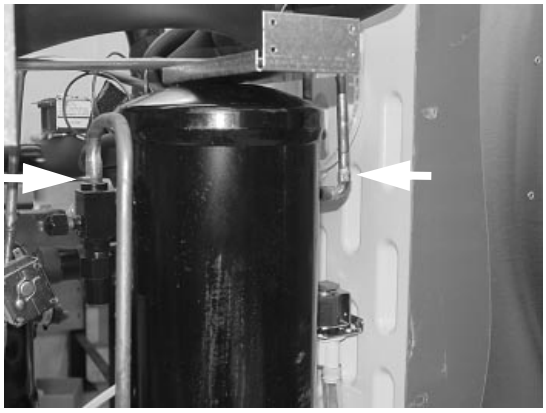

Figure 25. Rear View of Unit

21. Remove the insulation from the liquid line, at the expansion valves where the high side service line connects (Figure 26).
    Connect the nitrogen feed to the high side service valve.
    Protecting the plastic bulkheads from heat, remove the service line from the liquid line tee.

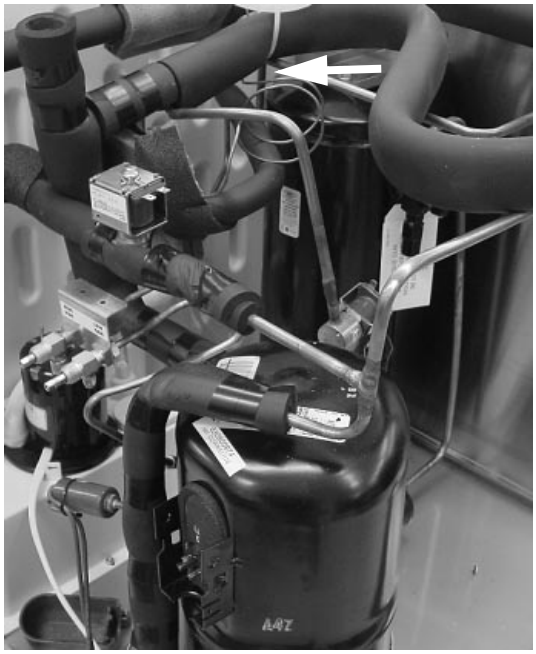

Figure 26.

22. Move the nitrogen feed to the low side service valve.
    Remove the insulation from the suction inlet by the crankcase pressure regulator valve (A) (Figure 27).
    Remove the suction line inlet and the compressor discharge (B) from the compressor.
    DO NOT remove the low side service valve line (C) from the compressor.
23. Disconnect the suction line assembly from the condenser line set at the Aeroquip valves.
24. Remove and discard the suction line assembly.

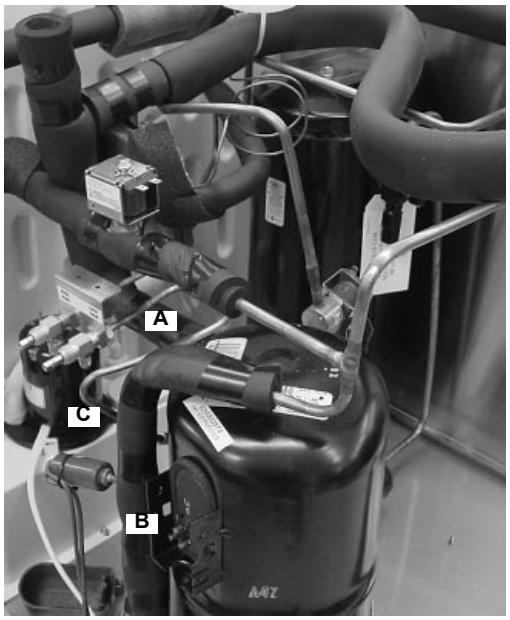

Figure 27.

25. Place the foamed accumulator assembly (D) orienting the suction line inlet, (E) as shown (Figure 28). The suction inlet can be identified by the insertion of a 3/8” probe. The baffle on the inlet port will l
26. t travel, the suction outlet will not. DO NOT release the probe into the accumulator.

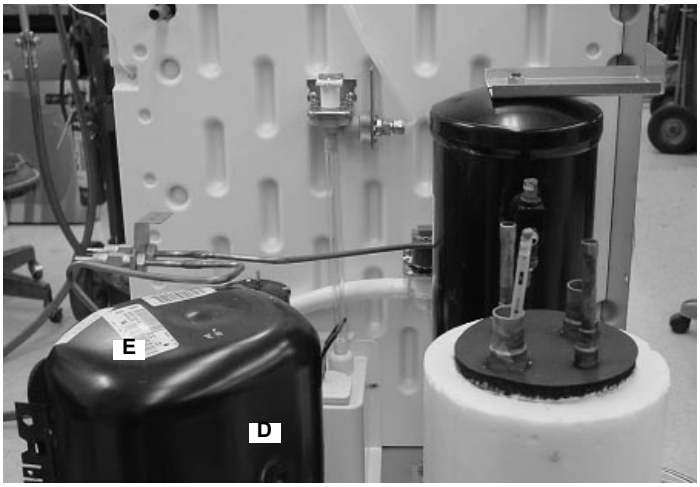

Figure 28.

DO NOT braze new piping assemblies until all components have been placed in the unit.

27. Place the Heat Exchange Suction Line assembly (C) in the unit (Figure 30). This assembly is the largest, and contains the expansion valves and hot gas solenoid.
    Place in the suction inlet (A) of the accumulator (Figure 29).
    Place in the liquid outlet (B) of the accumulator (Figure 29).
28. Place the Compressor Suction Inlet Line (C) in the unit (dashed line) (Figure 30).
    Place in the suction outlet (D) of the accumulator (Figure 29).
29. **DO NOT** connect the condenser line set at this time to the Heat Exchange Suction Line assembly.

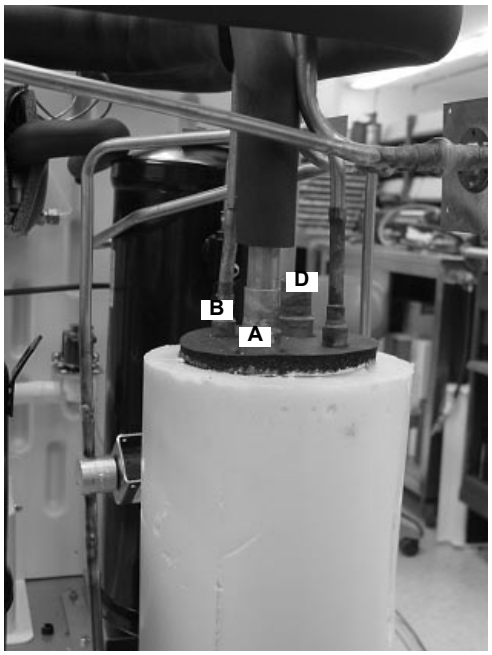

Figure 29.

Figure 30.

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30. Place the Liquid Line with Filter Drier (A) in the unit.
    This assembly has the filter drier and the liquid line valve.
    Connect the drier side of the assembly to the liquid outlet (B) on the receiver (Figure 31).
    Connect the valve side to the remaining port (C) on the accumulator (Figure 32).

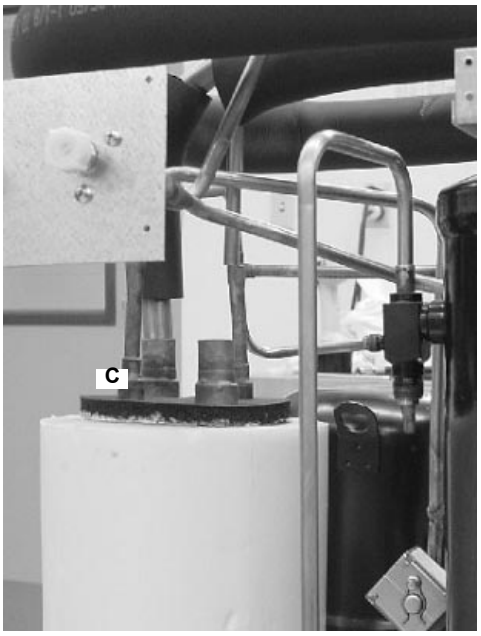

Figure 32. Unit Rear

Figure 31. Unit Rear

31. Attach the nitrogen feed (8-10 psig) to the receiver service port (A).
    For the receiver connections, use an appropriate flux paste and 45% silver solder to:
    Braze the Heat Exchange Suction Line to the receiver inlet (B).
    Braze the Liquid Line with Filter Drier to the receiver outlet (C) (Figure 33).

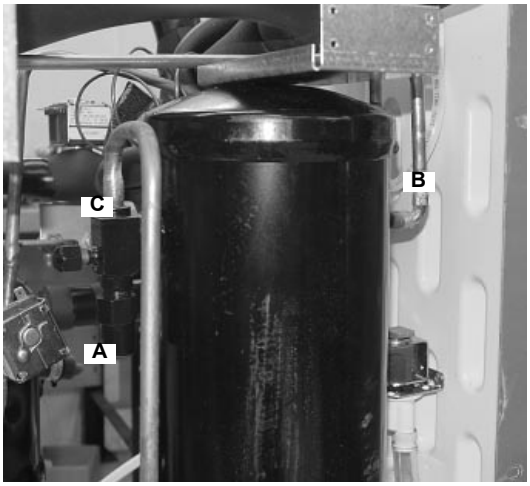

Figure 33.

32. Attach the nitrogen feed to the low side service valve.
    Disassemble the hot gas valve (D) to allow nitrogen to flow through the system (Figure 34).
33. Using clamps or other means, secure the insulation away from the joints, and braze the Heat Exchange Suction Line to the evaporator inlet (E) and outlet (F) (Figure 34).

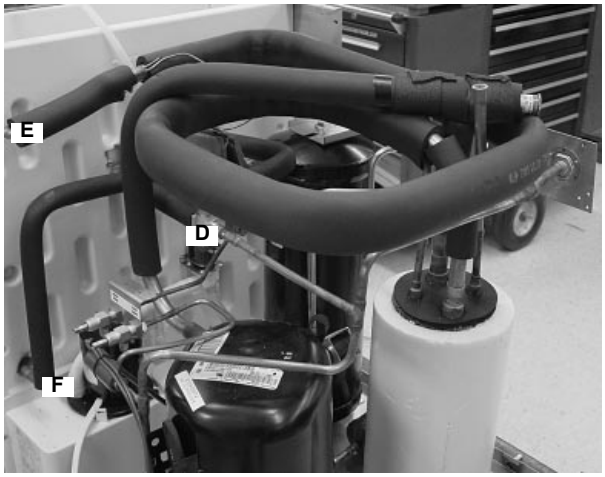

Figure 34.

34. Secure the insulation away from the joints in order to braze the compressor suction inlet (G) and the compressor discharge (H) lines (Figure 35).

CAUTION:
Avoid directly heating the check valve (K) or damage may occur.

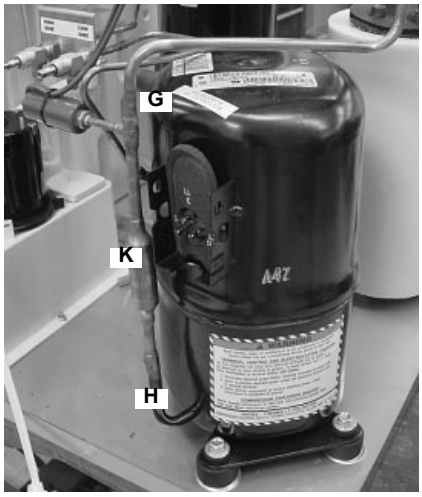

Figure 35.

35. Protecting the Armaflex insulation, as well as the foam insulation on the accumulator, braze the suction inlet (A) and outlet (B) (Figure 36).

CAUTION:
Avoid heating the insulation on the accumulator, damage or fire may occur.

36. Braze the liquid line inlet (C) and outlet (D) (Figure 36).

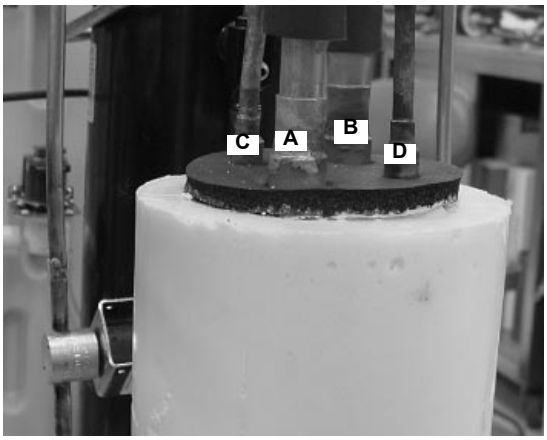

Figure 36.

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37. Protecting the plastic bulkheads, and securing the insulation away from the joint and braze the high side service line into the Heat Exchange Suction Line assembly (Figure 37).

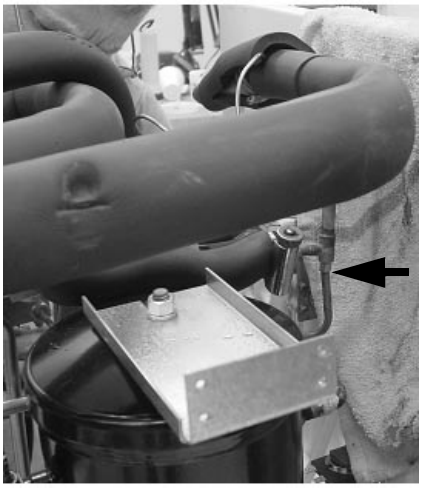

Figure 37. Unit Rear

38. Pinch off and braze shut the charging ports behind the Aeroquip fittings (Figure 38).

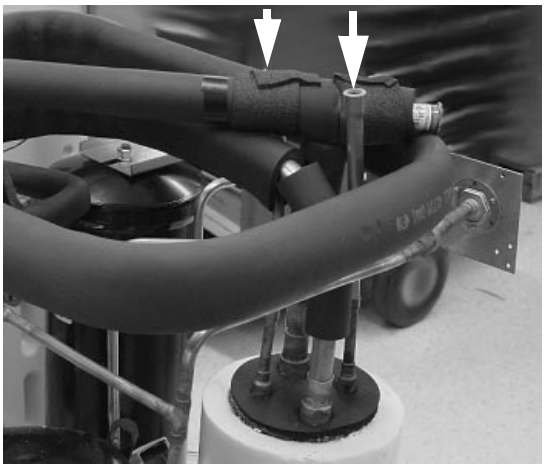

Figure 38.

39. Re-assemble the hot gas solenoid valve. Close the high side service valve. Cap the receiver service port.
40. Connect the condenser line set to the Aeroquip fittings.
41. Pressure test the system with nitrogen to 150 psig. The system may not be evacuated or charged with refrigerant until passing a pressure test.
    It will be necessary to use the receiver service port (high side) and the low side service valve to pressurize the system, unless power is brought to the liquid line and hot gas valves.
42. Once the system has passed a leak test, cover the expansion valve bulb (E) with the insulation kit (Figure 39). Cap the receiver service port.

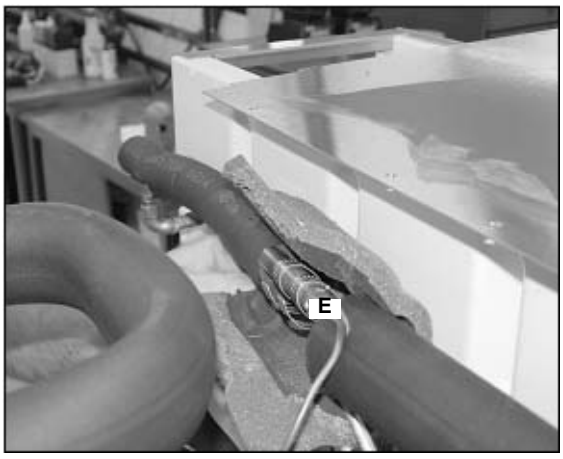

Figure 39.

43. Replace the bulkhead ring seals at the evaporator inlet and outlet (Figure 40).
44. Remove all tools, loose wiring, solder drippings, dust, dirt, or other foreign objects from the unit interior.

Figure 40.

45. Place the back panel in the unit. Attach the Aeroquip bracket with (4) hex head screws (Figure 41).
    DO NOT attach to the left side panel at this time.

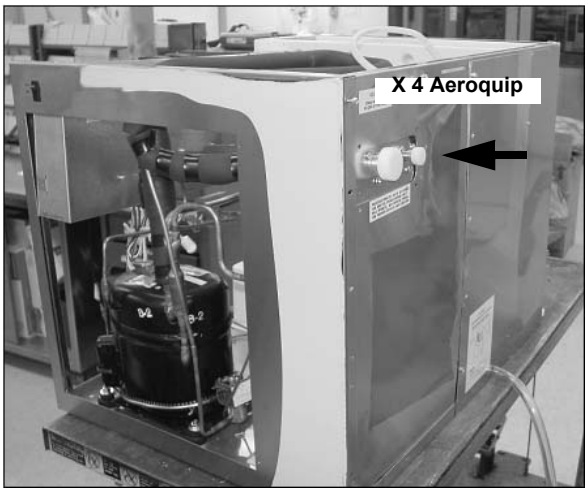

Figure 41.

46. Place the right side panel / brace / electrical box assembly (Figure 41).
    Attach the right side panel to the base with the 1/8" stainless POP rivet (Figure 42).

Figure 42.

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47. Replace the 4 hex head screws attaching the rear panel to the receiver bracket.
    Replace the 5 hex head screws attaching the rear panel to the right side panel.
    Replace the 6 hex head screws attaching the rear panel to the left side panel.
    Attach the water line (A) to the Heat Exchange Suction Line with the 7” wire tie. (Figure 43).

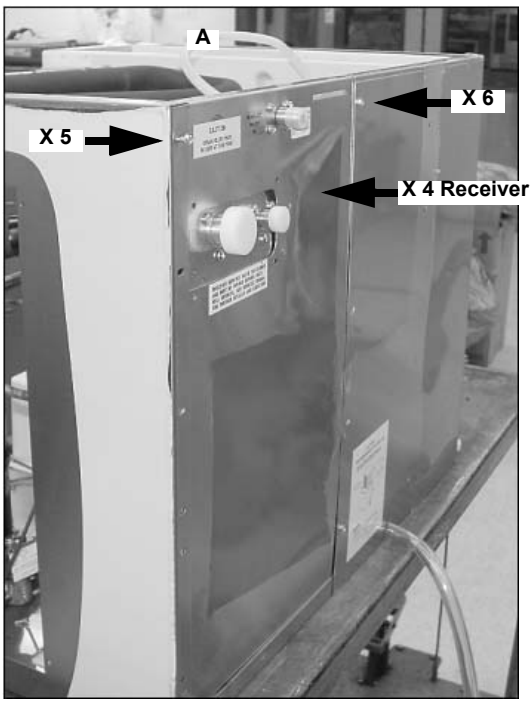

Figure 43.

48. Use 2 hex head screws to attach the service valve bracket to the electrical control box (Figure 44).

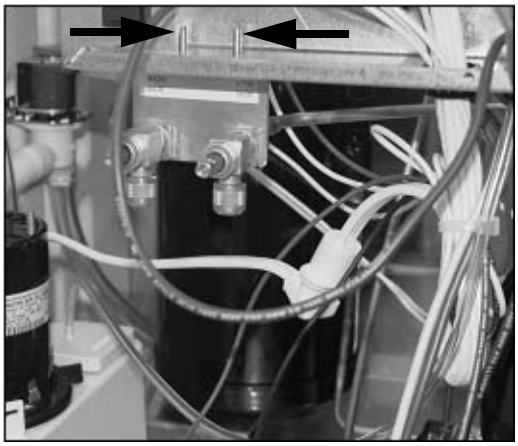

Figure 44.

49. Attach the support brace (B) to the evaporator bulkhead (C) with 2 Phillips head screws (Figure 45).

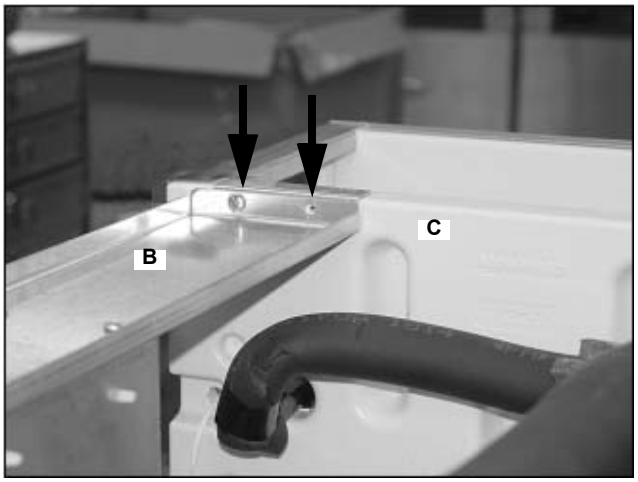

Figure 45.

NOTE: Verify all electrical connections against the unit wiring diagram.

50. Connect the compressor (Figure 46) and replace the junction box cover.

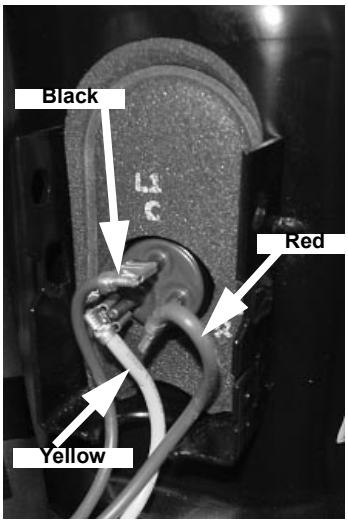

Figure 46.

Connect the pressure switch (blue wires) to the #5 pin on the control board, and to the contactor (Figure 47).

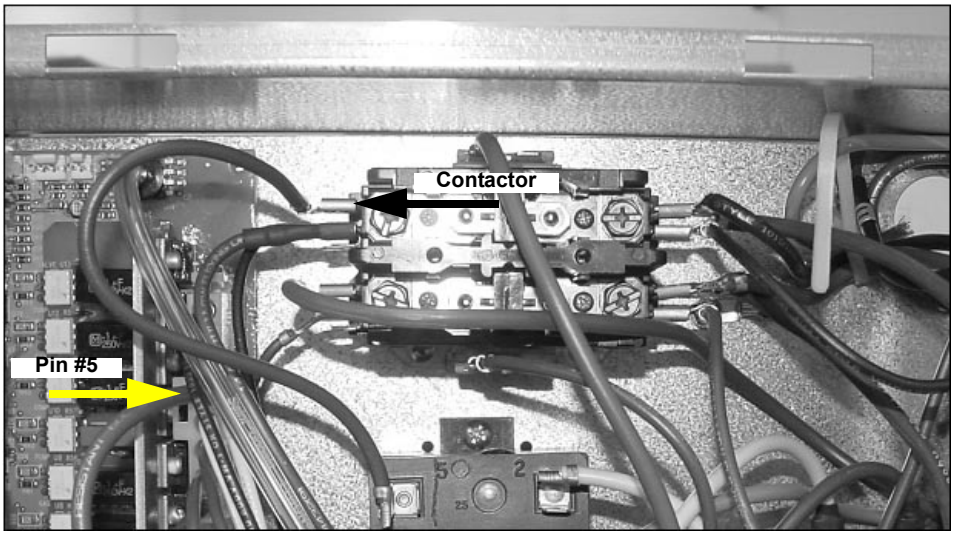

Figure 47.

51. Connect the water fill valve harness (A) (black & white leads) and the water dump valve harness (B) (yellow and white leads) (Figure 48).

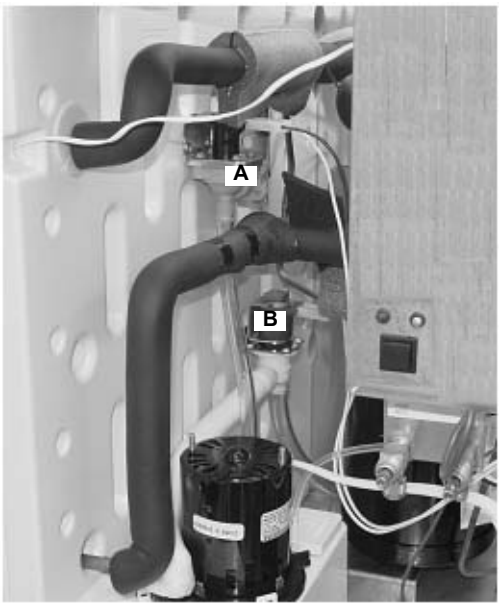

Figure 48.

52. Connect the crankcase heater (black wires) to the line side of the contactor (Figure 49).

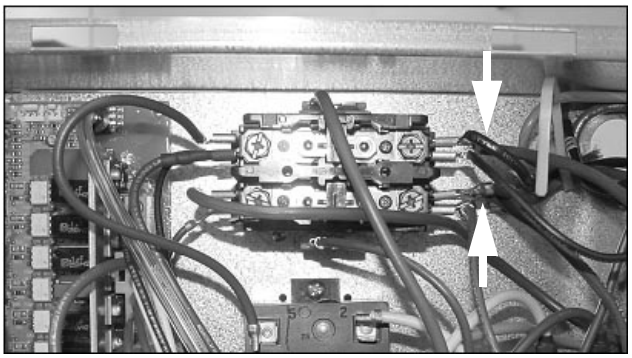

Figure 49.

53. Connect the hot gas harness (C) (white and red leads) to the hot gas valve (Figure 50).
54. Connect the liquid line valve harness (black and red leads).

    NOTE: Verify all electrical connections against the unit wiring diagram.

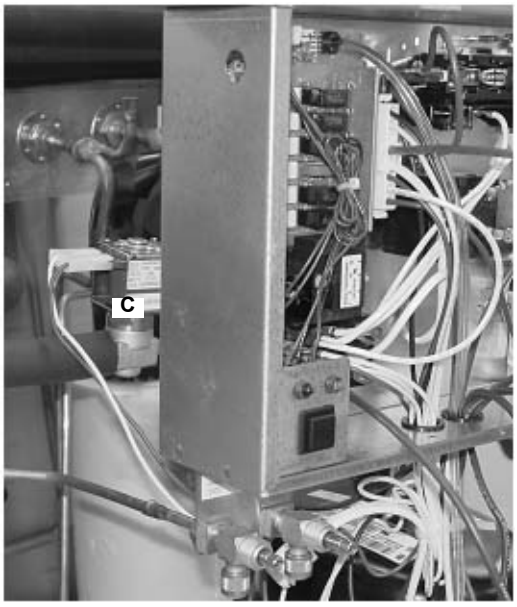

Figure 50.

55. Connect the pressure transducer tube (A) to the water pan.
    Connect the water pump motor harness (B) (Figure 51).
    DO NOT fill the water pan.
56. Connect the ground lead from the control box to the base plate, by the compressor.

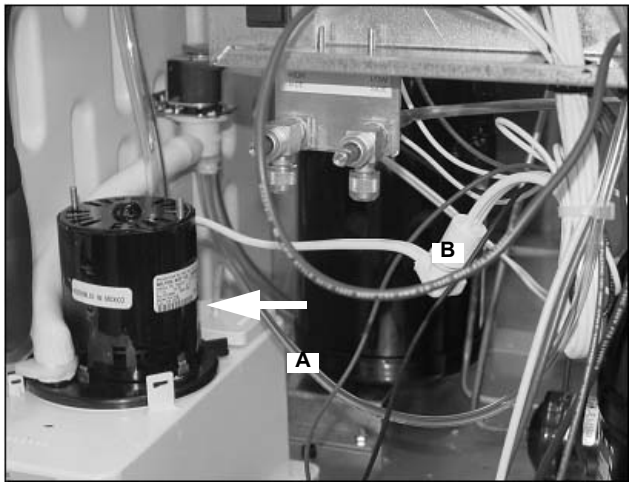

Figure 51.

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57. Insert the proximity switch harness (C) through the control box and attach to the control board. Install the rubber grommet (D) in the hole (Figure 52).
58. If the water supply line was disconnected, reconnect at this time.

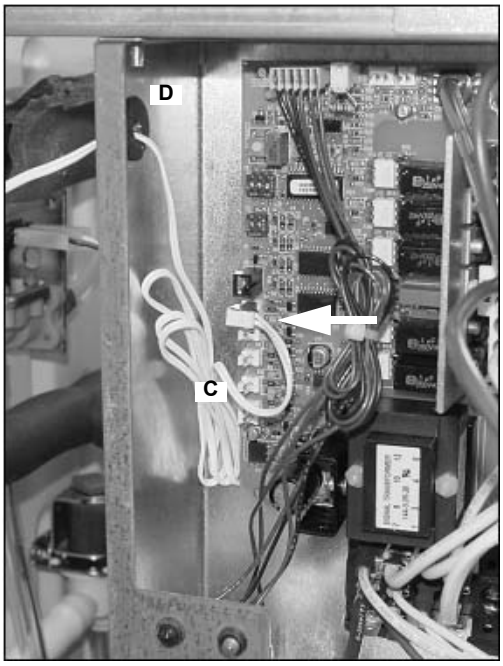

Figure 52.

59. Evacuate the system, in preparation for charging with refrigerant. Recommended pre-charge system state is 150 microns. **DO NOT** run the compressor with the system in vacuum.
60. TURN ON THE SUPPLY WATER.
61. Charge the system with R-404A (HP-62) on the low side service valve.

DO NOT introduce liquid refrigerant into the low side service valve, or any other part of the system.

Charge the unit with R-404A (HP-62) refrigerant to the specification on the serial plate on the icemaker AND on the remote condenser.

It is the policy of Cornelius, Inc. to:

A. Comply with all federal regulations concerning the handling of refrigerants.
B. Allow only virgin or reclaimed refrigerant (as defined by ARI Standard 740-91) to be used as or added to an original system charge.
C. Allow recycled refrigerant to be used only in the system from which it was originally recovered; and only if that system did **NOT** have a compressor burn out or refrigerant leak; and only if moisture, non-condensables, or other contaminants were **NOT** present in that system.
D. Refrigerant recovered from a contaminated system such as a compressor burn-out, refrigerant leak, or one that has moisture, air, or other non-condensables present, must be disposed of in an appropriate manner and cannot, under any circumstances, be reused in any Cornelius product. If the refrigerant has been reclaimed and meets ARI Standard 700-88, it can be used.
E. The refrigerant used to recharge a Cornelius product must be of the type specified on the serial nameplate of that product. All refrigerants must be weighed into the system so the amount of the charge is known and agrees with the product serial nameplate.

   IMPORTANT: The service contractor is responsible for determining if the refrigerant is contaminated. It is also their responsibility to assure their recycling equipment and procedures will guarantee that the refrigerant clean, moisture and non-condensable free and meets the appropriate standard. If the refrigerant is not cleaned to the appropriate standard, the warranty will be voided and the repair will become the responsibility of the service contractor.

   Always follow safe and acceptable refrigeration procedures.

62. Once the system has been properly charged, monitor the unit for 3-4 freeze / harvest cycles. Refer to the operating manual for details on proper unit operation and performance.

63. After verifying the proper operation of the unit, replace the electrical control box cover (A) using (1) Phillips head screw.

Replace the evaporator splash panel (B) (Figure 53).

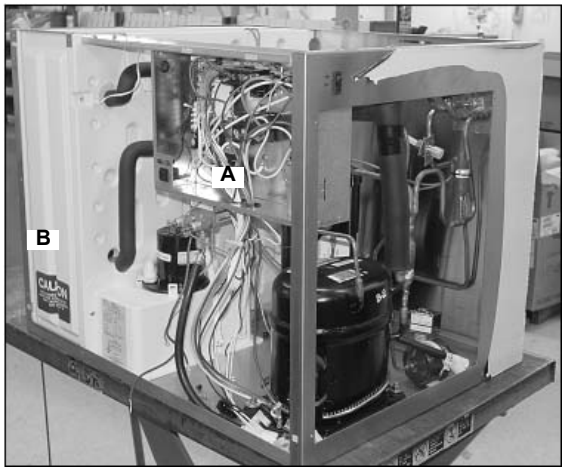

Figure 53.

64. Replace the top cover (C) and the front panel (B). Attach the louvered panel with (4) black, hex head screws (Figure 54).

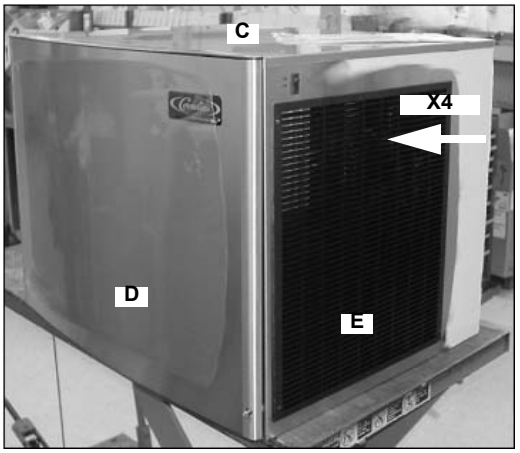

Figure 54.

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