

DYNAPAC CA602  
ROLLER  
INSTALLATION INSTRUCTIONS



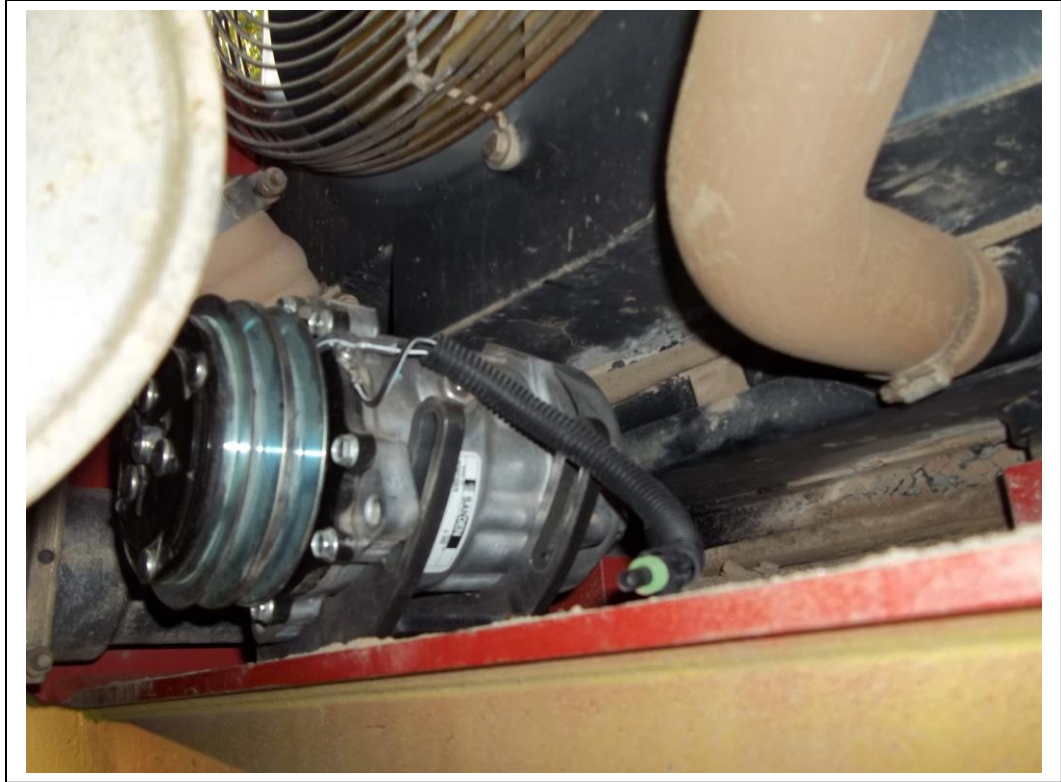
PHONE: (519)485-5961 OR 1-800-267-2665  
FAX: (519)485-3745 OR 1-888-267-3745

## COMPRESSOR:

- 1) Mount pulley to crank and re-attach main fan hub spacer. Do NOT put fan back on yet.
- 2) Open up belly pan under engine.
- 3) Place mount on frame cross member below radiator.
- 4) Set compressor in ears with fittings at 90° on the tightener ear side pointed towards the left side of the engine.
- 5) Use a straight edge to align the rear pulley on the compressor with the pulley on the crank. Keep compressor to right side of center to make room for the fittings on the left.
- 6) Clamp mount bracket in place and tack weld.
- 7) Determine the belt length.- A cut belt has been supplied to help with this.
- 8) Double check mount alignment with belt on, then weld in place or drill and bolt permanently.
- 9) Re-assemble fan and guard.



- 10) To get the compressor in and out, the tightener side of the ears must be able to pivot down flat to allow the compressor to move sideways to get out from under the radiator.



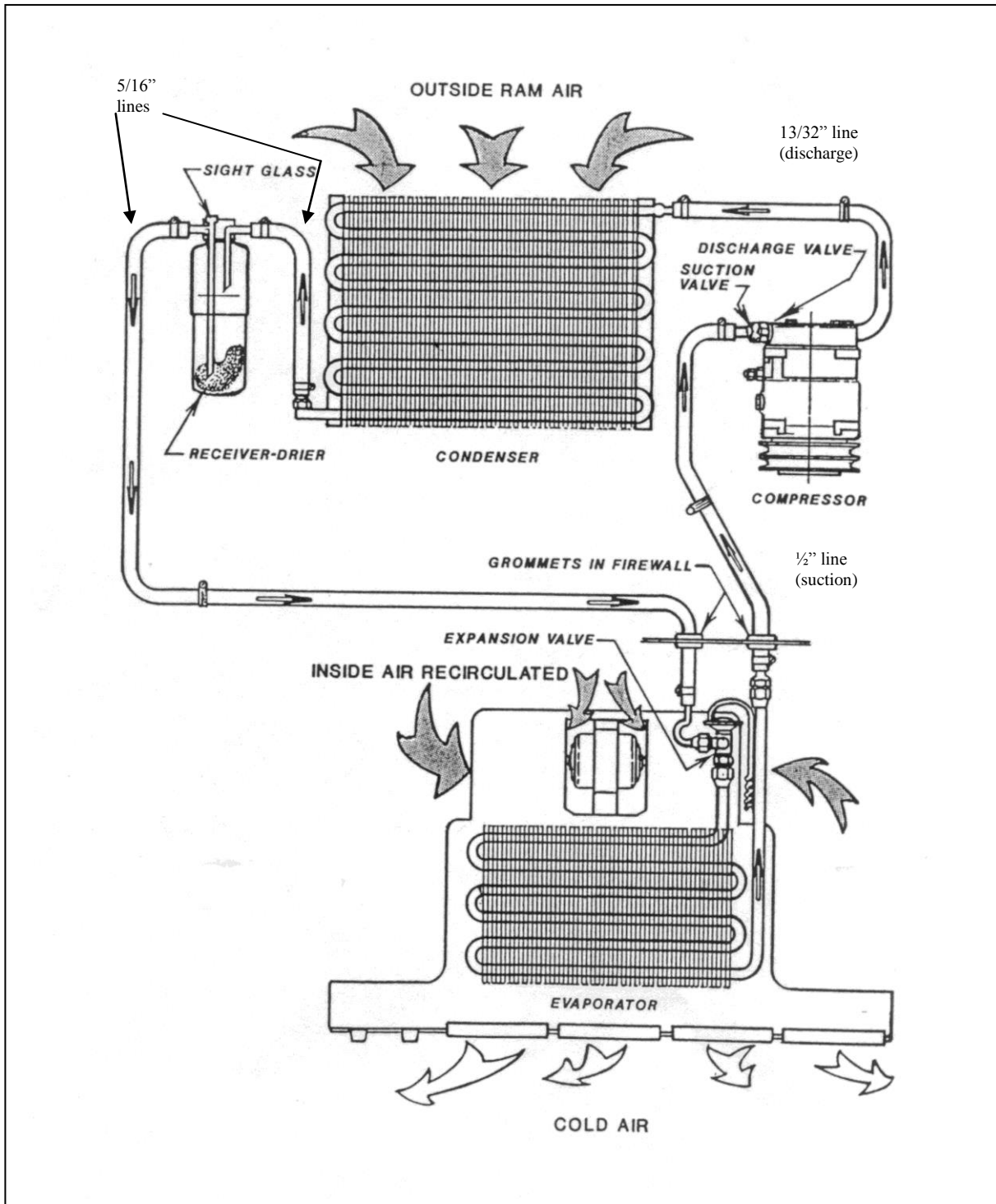
## EVAPORATOR / CONDENSER

See attached instructions for rooftop installation.

### CHARGING AND TESTING

- 1) Pressure test the system using nitrogen to a pressure of 250 psi. Check for leaks.
- 2) Add 2oz of SP20 Sanden PAG oil to the system.
- 3) Vacuum the system for at least ½ hour.
- 4) Check that the vacuum holds.
- 5) Fill the system with 2.8 to 3 lbs of R134a refrigerant. **DO NOT USE ANY OTHER TYPE OF REFRIGERANT OR IT WILL VOID THE WARRANTY.**
- 6) Test the system. Check the cycling temperature of the thermostat. Adjust the thermostat settings if required to avoid coil freeze up problems. See the thermostat setting procedures at the end of these instructions.

## Refrigerant Flow Pattern in a Standard Air Conditioning System



## Thermostat Setting Procedures

- 1) Thermostat types
  - a) preset
  - b) adjustable
    - a) A preset thermostat is adjusted to its specific cut in and cut out temperatures when manufactured and does not have a rotary adjustment for the operator.
    - b) An adjustable or rotary thermostat has been manufactured to a predetermined cut in and cut out temperatures, but it is also operator adjustable to achieve the desired comfort level.

Both types of thermostats can have their factory settings adjusted by turning the setting screws on the body of the thermostat. One body type has the setting screws mounted externally and labeled for direction of rotation. The other body type requires the removal of the plastic end plate to expose the set screw.

- 2) Thermostat probe location: The location of the thermostat probe in an evaporator coil can be very important to achieve the maximum cooling potential of the coil while also preventing coil freeze-up. There is no set location for the thermostat probe to be put that will be optimum for all systems, but several rules of thumb may be followed:
  - a) Insert the probe in the coldest area of the evaporator coil.
  - b) Insert the probe from the top of the coil down, if possible.
  - c) Make sure that at least the last 3" of the thermostat probe are in the coil.

To find the most likely area where the coil is the coldest, consider these factors:

- 1) Direction of air flow through the coil.
  - 2) The coil area likely to have the lowest air flow.
  - 3) The inlet locations of the refrigerant into the coil.
  - 4) The inlet of the hotter outside air into the coil area.
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- 1) Usually the coldest side of the evaporator coil will be the air outlet side. Often the thermostat probe can be inserted between the last and second last row of tubes.
  - 2) The lower air flow area of the evaporator coil in most systems tends to be near either end of the coil. These areas will be colder
  - 3) The area of the coil that the refrigerant inlet tube(s) occupy should be the coldest part of the coil.
  - 4) If the system is equipped with an outside air intake, where and how that air is brought into the evaporator area can have a large effect on the coil temperature. If all the outside air is piped into the evaporator in one area, that area will be considerably warmer in hot weather.

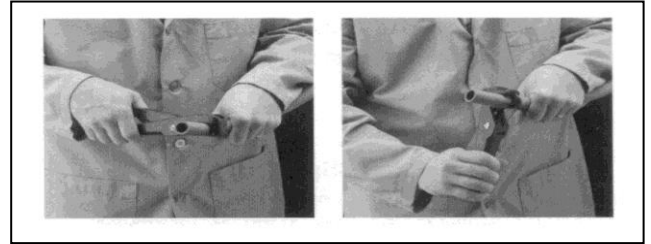
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

Once the probe is inserted, the A/C system needs to be tested. Run the system to ensure that the thermostat is cycling the compressor off at the appropriate temperature. A core temperature ranging between 25° and 30° F should cause the thermostat to cycle off. The air temperature at the vent outlet closest to the evaporator coil should be between 38° F and 45° F when the compressor cycles off.

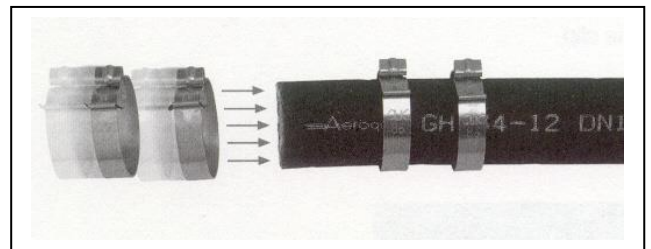
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then check the evaporator coil for any signs of freezing.

## Aeroquip E-Z Clip Assembly Instructions

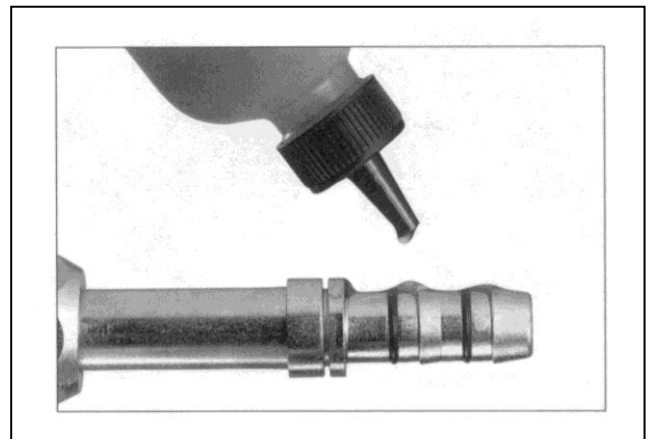
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



Step 2. Install two proper-sized clips onto the cut end of the hose. Orientation of the clips does not affect the performance of the connection. However, for ease of assembly, both clips should have the same orientation. NOTE: Failure to slide the clips over the hose at this time will require the clips to be stretched over the hose or fitting later. This may permanently damage the clip.



Step 3. Lubricate the nipple with a generous amount of the refrigeration or A/C system's compressor lubricating oil. This MUST be done to lower the force of nipple insertion.



Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion. NOTE: Be sure to wipe excess oil from the nipple and hose.

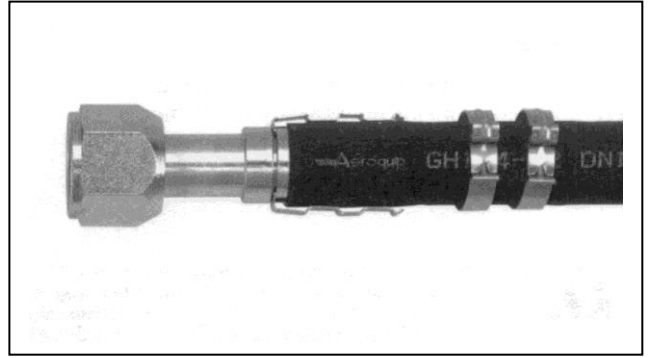




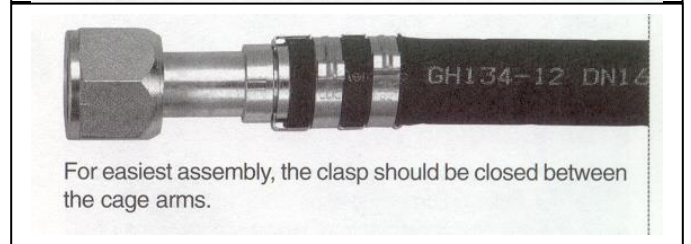
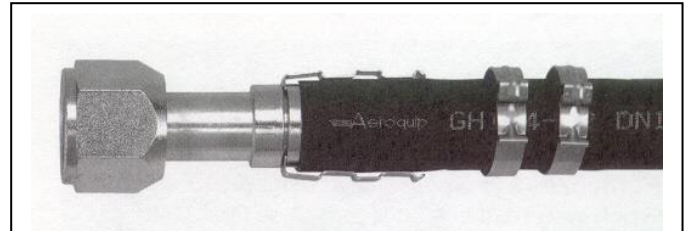
Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove.

This step **MUST** be performed to ensure:

1. The clips will be located over the O-rings on the nipple.
2. The connection will be compatible with the connection's pressure rating.

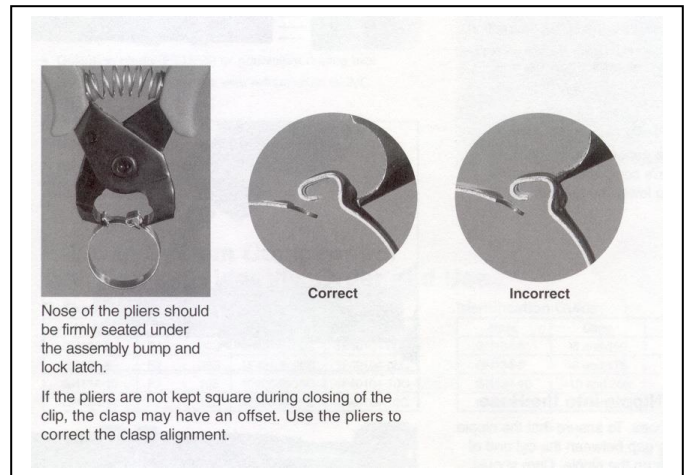
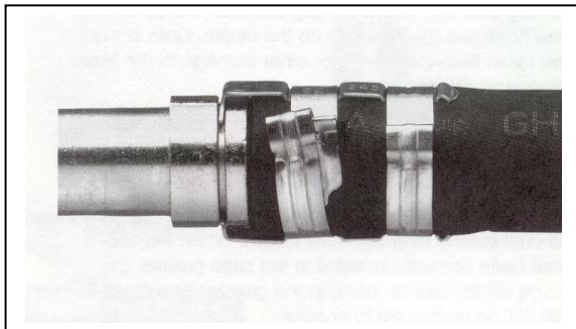


Step 6. Slide the clips over the cage arms and into the channels on each arm.



Step 7. Use the pliers to close the clips. The pliers should be positioned squarely on the clip connection points and should remain square during the closing of the clip.

**NOTICE:** E-Z Clip components should not be reused.



**INSTALLATION INSTRUCTIONS**  
**HD 1000 HEAVY DUTY R-134A ROOFTOP KOMBO OR A/C ONLY**  
**342557**

- NOTE:**
1. Read instructions carefully.
  2. If vehicle is to be used at highway speeds, an additional relay will be necessary to prevent reverse current flow caused by windmilling of condenser fan.

Installation Procedure

1. Install compressor brackets, pulley and accessory hardware per instructions in Adapter Kit.
2. Roof Unit Mounting.
  - A. Remove cab roof liner, if applicable.
  - B. Lay out template 342125 on top of roof. Be sure the unit will clear lights and accessories mounted to cab roof and ceiling. Mark mounting hole locations and drill six (6) 13/32" mounting holes.
  - C. Mark the position for air transfer chamber and cut hole.
  - D. If applicable, install roof liner, trace outline of opening in roof on the liner. Remove roof liner and cut out opening traced.
  - E. Clean dust, dirt and metal burrs from around air transfer chamber opening and mounting holes.
  - F. Place unit on roof top temporarily to verify that mounting bolts and transfer chamber are aligned correctly with holes cut in roof.
  - G. Remove unit.
  - H. Clean the roof surface approximately 1½" around transfer chamber opening. Wipe seal ring on unit with a clean dry cloth to remove dust and dirt.
  - I. Mount unit as in step (F) and tighten mounting bolts. An incomplete seal (gaps or loose appearance) is a result of improperly tightened mounting bolts. Maximum compression of seal ring should not exceed ⅜". Use sealant around bolt holes.

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3. Wiring Installation.

- A. Cut a small hole through rubber boot close to roof at rear of air chamber opening. This hole should be large enough for the three (3) wires of the harness.
- B. Insert the three (3) wires through the hole and insert terminals into connector. Care should be taken to ensure that wire color coding relationship is maintained.

**NOTE: Cabs without roof liner, route wires through hole in rear of air chamber.**

4. Air Chamber Assembly Installation.

- A. Install roof liner if applicable. Hold roof liner in normal position. Trim rubber boot level with roof liner or roof. Loosen the two (2) wing nuts inside rear of air chamber opening allowing control panel to drop down to bottom of adjustment.
- B. Hold air chamber in position and determine position for control panel so that air chamber will be tight against roof liner or roof.

**NOTE: Make sure that clip on air chamber is behind the control plate.**

Tighten wing nuts when air chamber is in proper position. Attach air chamber and grille to control plate as shown.

5. Hose Kit Installation.

- A. Attach refrigerant hoses to air conditioner connections on unit and route down rear and under cab to compressor.
- B. Attach heater hoses to heater connections on unit and route down rear and under cab to water connections on engine (Kombo only).
- C. Attach hoses to vehicle with clamps located approximately two (2) feet apart and where required to keep hoses away from hot spots and sharp objects.

**NOTE: On tilt cab installations, always route refrigerant and heater hoses to the cab pivot point and then on to the compressor and water connections of hose, to prevent tearing of hose, breaking of service valves, and destruction of hose due to laying on hot spots of engine. Check routing with cab up and down to ensure proper routing.**

- D. On refrigerant hoses with crimp fittings, after routing and determining proper hose lengths, cut to length using a sharp knife.

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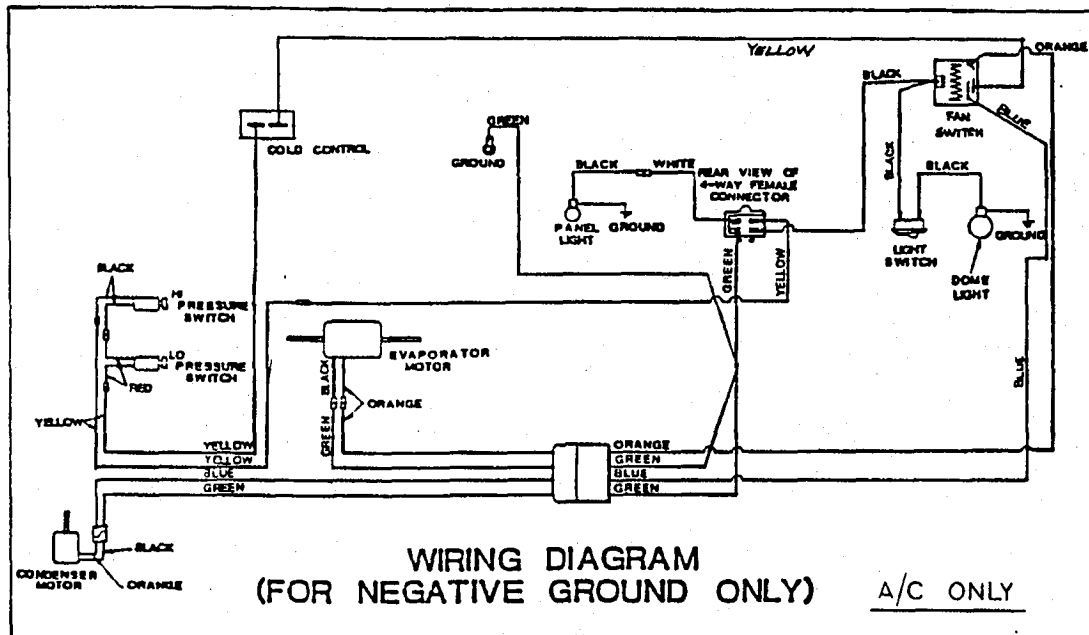
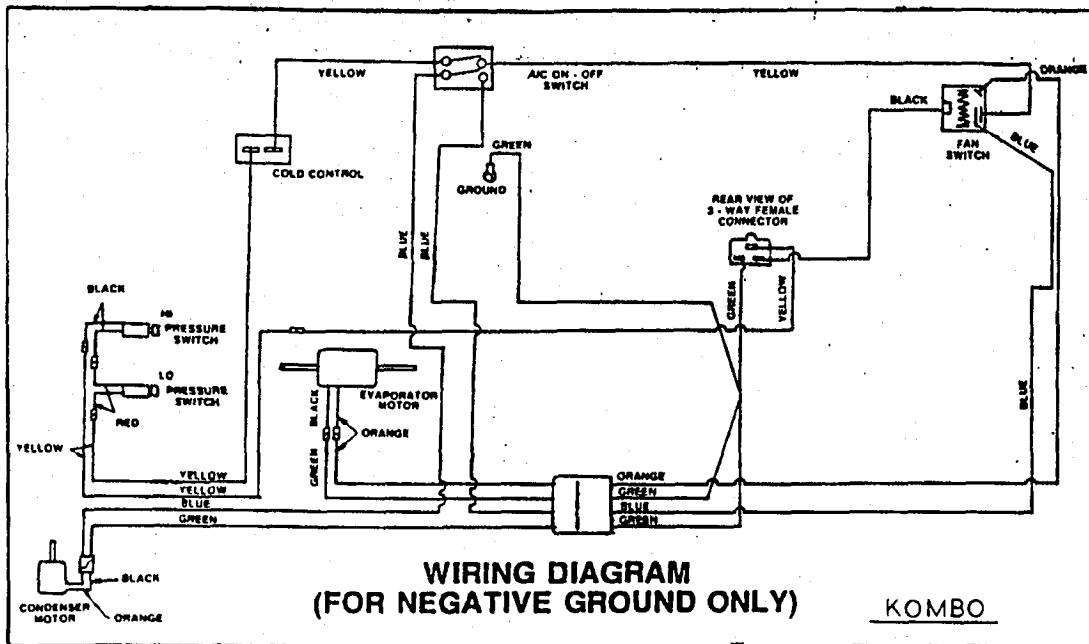
**NOTE: Do not use a saw of any type. Push fitting into hose, crimp per manufacturer's instructions.**

- E. Use hose clamps to attach heater hoses to unit and water connections on engine (Kombo only).
- F. Determine desired direction of drainage. Cut drain hose to desired lengths. Attach drain hoses to drain elbows on bottom of unit. Use hose clamps to hold drain hoses in position.

**NOTE: Drain hose should be positioned in a direction that will allow unit to drain if vehicle is operated on an incline.**

Attach check valves to the ends of drain hoses.

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- NOTES:
1. Diagram shown is for unit factory wired for negative ground system. For positive ground, reverse 4-way connector so that green is to orange and blue to is green.
  2. Unit requires a 30 amp fuse or circuit breaker for 12 volt system and 15 amp for 24 volt.
  3. Fan switch must be "ON" to get power to temperature control switch and clutch.

