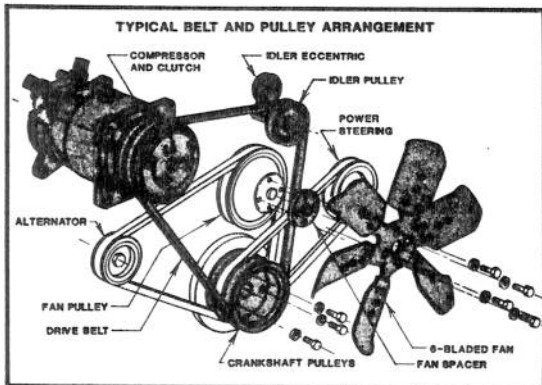


AUTO AIR CONDITIONING General Installation Instructions



I. MOUNT AND DRIVE INSTALLATION

NOTE: Refer to specific instructions enclosed in mount kit.

A. INSTALLING THE DRIVE PULLEY

1. See drawing: Typical Belt and Pulley Arrangement.
2. Disconnect battery while making installation.
3. Drain radiator coolant and save if anti-freeze has been added.
4. Remove radiator, fan and fan shroud. Cap hoses when disconnecting transmission coolant lines from radiator.
5. Remove attaching bolts from original crank shaft pulley. Install compressor drive replacement bolts and locks supplied in Mount and Drive Kit. Sometimes a replacement pulley is supplied and in many cases the air conditioning pulley groove is already incorporated in the original crankshaft pulley.
6. Tighten pulley center bolt and other retaining bolts securely. Check pulley for wobble and adjust as necessary.

B. INSTALLING THE COMPRESSOR AND CLUTCH

1. Install the compressor and clutch on the mounting plate. If the compressor and clutch are a type that are not preassembled, follow instructions given in the clutch box.

C. INSTALLING COMPRESSOR MOUNT AND IDLER PULLEY

NOTE: On aluminum block engines, use an "anti-seize" compound on all bolts.

1. Install compressor, clutch and mounting plate assembly to the engine using instruction sheet packed in Mount and Drive box. Necessary bolts and locks are also supplied. NOTE: Use Parts List on instruction sheets to check off bolts and spacers for proper length and size as well as other necessary hardware to make the installation.
2. Tighten all bolts evenly to prevent warpage of mounting plate assembly.
3. Install idler bracket, eccentric and idler pulley as indicated in the instructions.
4. Pulley alignment is very important. To check for correct alignment of pulleys, use a metal straight-edge against machined forward edges of crankshaft pulley and the compressor clutch. With the proper alignment of crank shaft pulley and compressor clutch adjust idler pulley alignment, if necessary, by adding or deleting spacer washers. A different off-set of eccentric may be used in some extreme cases of mis-alignment.

D. INSTALLING DRIVE BELT

1. Install drive belt around proper groove of crankshaft pulley, around compressor clutch and around idler. See enclosed sketch in Mount and Drive instructions; also see Typical Belt and Pulley Arrangement above.
2. Belt should not slip when engine is idling and head pressure is approximately 250 P.S.I. DO NOT OVERTIGHTEN BELT.
3. A properly adjusted belt will depress 1/2" in the middle of the longest span. If belt tension gauge is used, new belts should be tensioned to 80-100 lbs., used belts to 55-75 lbs.
4. Retighten belt to proper tension after initial stretch or after about one week of use.

II. CONDENSER AND RECEIVER-DRIER INSTALLATION

A. INSTALLING CONDENSER

NOTE: With the radiator and condenser coil installed, there should be 1/2" to 3/4" space between radiator core and condenser fins.

1. Place condenser in mounting position to determine proper mounting bracket locations.
 2. Install mounting brackets to flanges of condenser (see drawing above).
- NOTE: Rework of some automobile parts may be necessary to install condenser.
3. Install condenser with the 1/2" inlet at the top and the 3/8" outlet at the bottom.
 4. In some cases, it may be necessary to pre-connect refrigerant hoses to the condenser before installation of condenser. Refer to Part III under topic: Connecting Hoses.
 5. Reinstall radiator, reconnect all lines and hoses and replace coolant.
 6. Install original fan or replacement fan and fan spacer, if required.

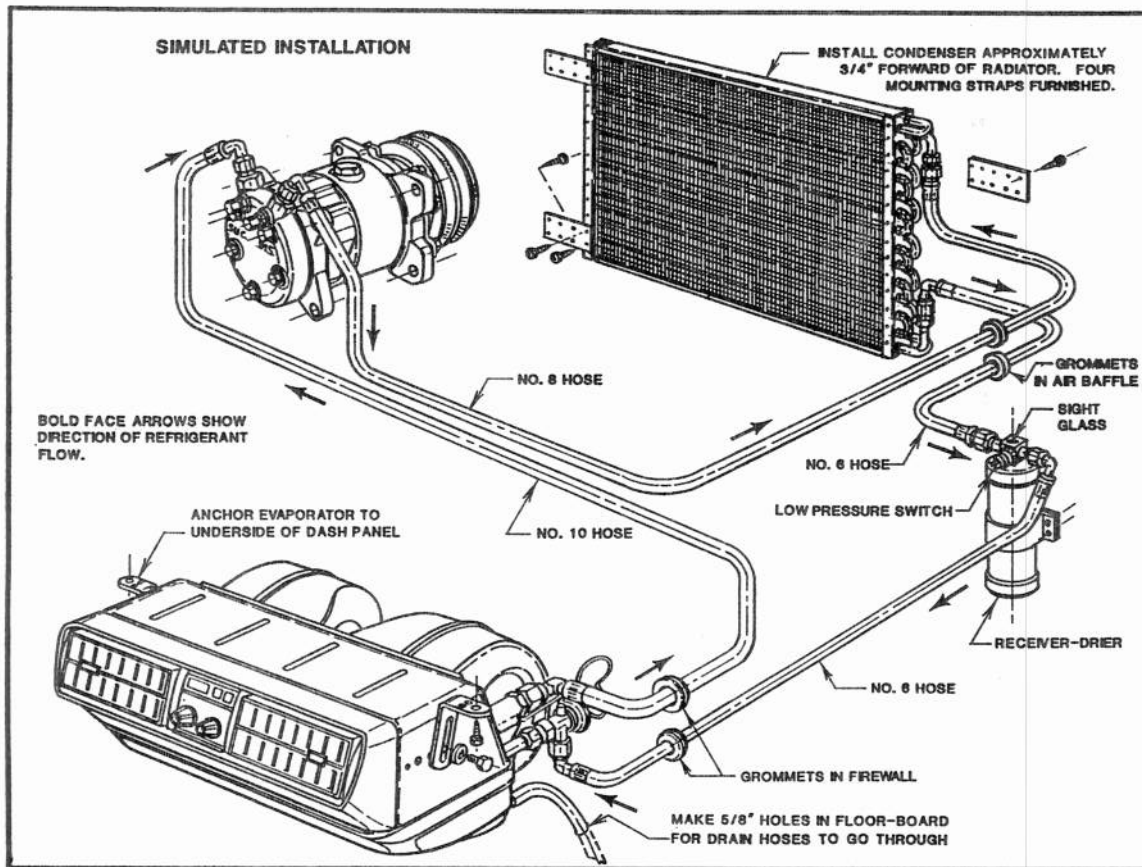
B. INSTALLATION OF RECEIVER-DRIER

1. Determine location of receiver-drier. Select a good place where hose connections will be easily made and where sight-glass can be viewed when charging and servicing the air-conditioning system.
2. Anchor receiver-drier to position using mounting bracket and screws supplied.

III. INSTALLATION OF EVAPORATOR AND COMPLETION OF INSTALLATION

A. LOCATING EVAPORATOR CASE ASSEMBLY

1. Properly position evaporator to bottom line of dash or to your desired location and mark off location for mounting bracket screw holes, holes for drain tubes and holes in firewall for refrigerant hoses to pass through.
2. Sometimes it may be necessary to relocate items along underside of dash to make room for evaporator.
3. Set evaporator aside and make holes where marked. Use 1-3/8" hole saw to make holes through firewall for refrigerant hoses. CAUTION: CHECK CAREFULLY FOR CLEARANCE ON ENGINE SIDE OF FIREWALL.
4. Use drive punch and hammer or small hole saw, 3/4", to make holes in floor-board for drain tubes to pass through. Also, pre-check for clearance on underside of vehicle.
5. Use small drill, approximately 5/32", to make holes in metal framing of under side of dash for evaporator mounting brackets. Evaporator case mounting brackets are a universal type angle bracket and may be adjusted to meet any mount-



-ing situation. CAUTION: DO NOT DRILL INTO RADIO, HEATER, WIRING LOOMS AND DUCT WORK, ETC.

6. Anchor evaporator to position. (It may be necessary to pre-connect refrigerant hoses to evaporator before anchoring evaporator). Refer to drawing to determine proper hoses and fittings to do the job.

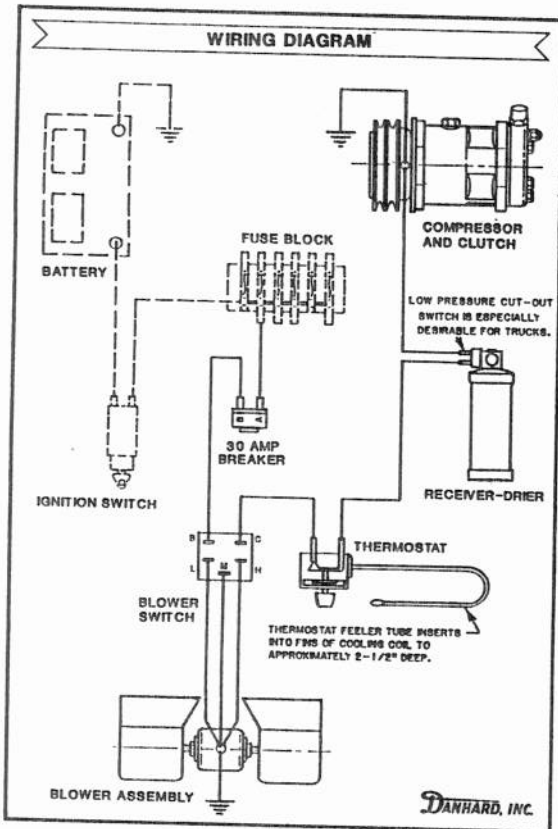
B. INSTALLATION OF HOSES

1. CAUTION: USE A DROP OR TWO OF REFRIGERATION OIL ON THREADS AND SEATS OF ALL HOSE FITTINGS INCLUDING SLIP-ON CONNECTIONS.
2. NOTE: CAPS AND PLUGS SHOULD NOT BE REMOVED FROM REFRIGERANT HOSES UNTIL READY TO BE CONNECTED.
3. IMPORTANT: AVOID SHARP BENDS AND ANCHORING HOSES TOO CLOSE TO HOT OR MOVING PARTS.
4. Steps in making slip-on fitting connections:
 - a. Cut hoses to proper length using a knife. Do not use hack saw.
 - b. Slightly oil inside of hose with refrigerant oil or white lube
 - c. Worm gear hose clamp must be positioned so that gear clamp tab is over the end of hose and flush with end. This properly positions the hose over the barbed section of the fitting.
 - d. Push hose on slip-on pipe of fitting with rotating motion until fitting is completely inserted.
5. Slide necessary grommets and hose clamps on before installing.
6. Tighten clamp.
7. Install no. 8 (1/2") refrigerant hose to compressor discharge valve using proper fitting (45 degree, 90 degree ell or straight).
8. Make 1-3/8" hole in radiator air baffle yoke, if necessary, to route hose through. See drawing: Connect Hose to Upper Inlet of Condenser.
9. Connect No.6 hose, (3/8") , to lower outlet of condenser, pass hose through another 1-3/8" hole cut in radiator air baffle yoke and connect hose to inlet of receiver -drier.

10. Connect another no.6 hose (3/8") to outlet of receiver-drier. Route hose to firewall, avoiding hot or moving parts of vehicle, and through 1-3/8" hole in firewall and connect hose to expansion valve inlet of evaporator. This hose sometimes must be pre-connected to evaporator at the time the evaporator is installed.
11. Connect No. 10 hose (5/8") to outlet of evaporator if it has not already been installed. Route hose through 1-3/8" hole made in firewall and connect hose to suction port of compressor.
12. Clamp all hoses along their way with loop clamps and sheet metal screws.
13. Insert rubber grommets in holes around hoses at firewall and radiator air baffle yoke. Use perma-gum to seal any remaining cracks around hoses and grommets at firewall.
14. Install condensation drain tubes from evaporator through 3/4" holes in floor-board to underside of vehicle. Cut drain tubes at an angle to form a low pressure area on back side of the tips of the drain tubes as shown in the drawing to insure good drainage.

C. CONNECTING WIRING

1. Refer to wiring diagram in these instructions. Wiring within the evaporator is pre-connected.
2. Select a source of electrical power, usually a terminal on the fuse block as shown in the wiring diagram. Connect lead wire with 30 AMP breaker to terminal on the side of the fuse block as shown.
3. Connect the blue clutch wire from the evaporator wiring harness to the clutch coil lead. If the installation has a high-pressure cut-out switch on the receiver-drier, this switch must be spliced into the clutch wire as shown in the wiring diagram.
4. Route the clutch wire to the clutch along with, and taped to the suction hose, away from hot or moving parts in the engine compartment.
5. Re-connect the car's battery.



D. EVACUATING THE SYSTEM

NOTES:

- a. Evacuate to a minimum of 30 minutes.
 - b. Discharge and suction ports are identified at the ports on the compressor.
 - c. Refer to Evacuating Schematic: with both gauge manifold valves closed, connect gauge manifold to compressor and to vacuum pump as illustrated.
 - d. Plug vacuum pump into 110 volt wall receptacle.
CAUTION: CHARGING HOSE MUST HAVE SCHRAEDER DEPRESSORS TO OPEN THE SYSTEM FOR EVACUATING AND CHARGING.
1. Open intake valve on vacuum pump. Start pump. Open both manifold valves slowly to prevent oil from being discharged from the compressor. Evacuate system for 15 minutes. A reading of 28 P.S.I. of vacuum at sea level pressure should be obtained on low side of gauge. If this reading is not obtained within this period, make sure all connections are tight.
 2. Close both charging manifold gauges for 5 minutes. Check low side reading before closing. If reading shows a rise in pressure after closing the gauges, check for leaks.
 - a. To check for leaks with a leak detector, disconnect the vacuum pump and add a small amount of refrigerant to the system. A pressure of 5 P.S.I. should be noted on low side gauge.
 - b. See charging schematic for adding refrigerant to system.
 - c. Go over all connections and lines and hoses with a leak detector until all leaks are found.
 - d. Allow refrigerant to escape, correct all leaks and evacuate again as before.

E. CHARGING THE SYSTEM

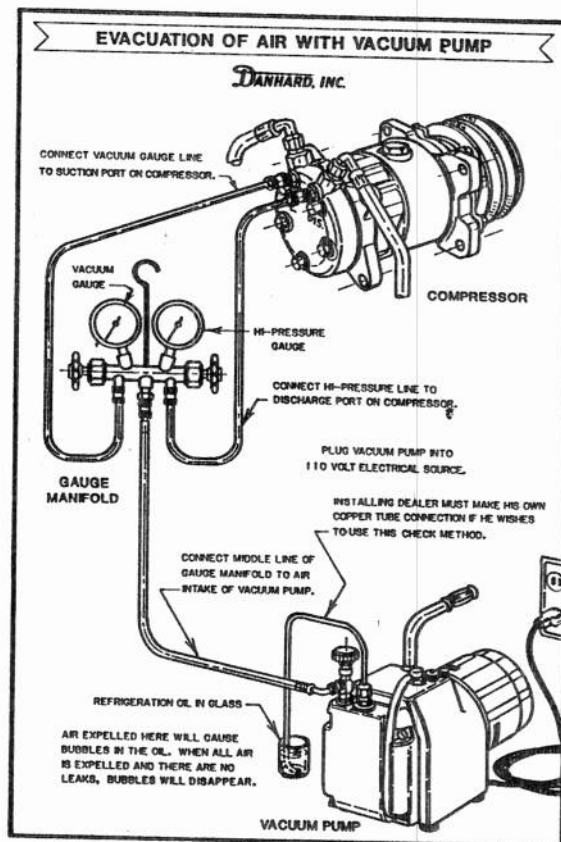
Refer to charging instructions on charging station.

F. TO FULLY CHARGE THE SYSTEM

1. Start engine, set at fast idle. On hot days, place a large fan in front of radiator, blowing directly on condenser coil and radiator.
2. Open low side manifold gauge valve. **NOTE: KEEP HIGH SIDE GAUGE VALVE CLOSED.**
3. While charging unit, check sight glass. When all bubbles and foam have disappeared from the sight glass, the system has a sufficient charge. Depending on size of system, approximately two to three pounds of refrigerant is required for a maximum charge. Do Not Overcharge.
Close the low side manifold gauge valve.
4. The low side gauge should read 20 to 40 P.S.I. and the high side gauge should read 180 to 200 P.S.I.
5. Close refrigerant can or drum charging valve all the way and disconnect charging line from refrigerant can or drum.
CAUTION: BE CERTAIN THAT CHARGING LINE IS POINTED DOWNWARD AND AWAY FROM FACE AND BODY AS WELL AS AWAY FROM CAR PAINT.
6. Disconnect manifold lines from compressor.
7. Replace compressor valve port caps.

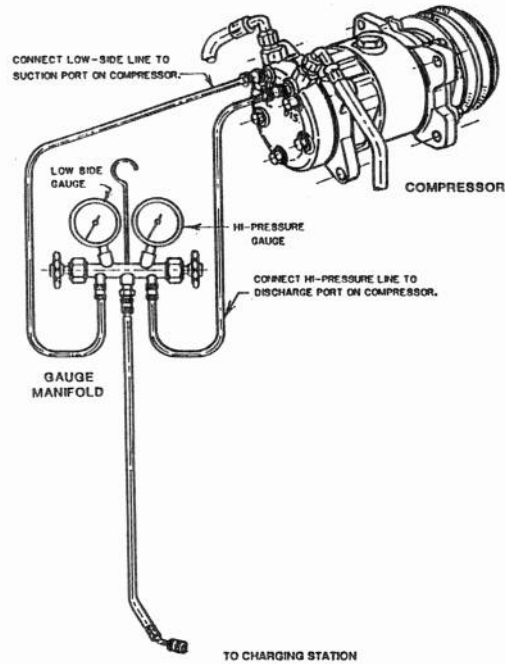
G. CHECK OUT AFTER CHARGING

1. Allow engine to run at fast idle and check evaporator outlet air temperature. With the car doors open it should be approximately half of the outside air temperature.
2. Make final leak test.
3. Check fan speed control switch for proper operation.
4. Check thermostat to be sure unit cycles on and off. This should be done with doors and windows closed. With the car interior cool the compressor clutch should be made to disengage and engage by moving the thermostat control knob.
5. Road test the car. Be sure to check for engine over heating and noises which may be caused by the installation.
6. Recheck the belt tension.
7. After correcting any discrepancies found during checking and road testing, unit is ready for delivery to customer.



CHARGING SYSTEM

DANHARD, INC.



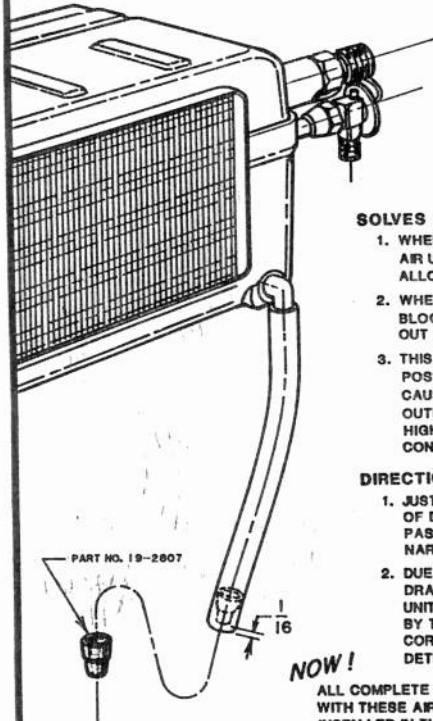
IMPORTANT!

DUE TO VARIANCE OF AMBIENT TEMPERATURES, HUMIDITY AND HOSE LENGTHS REQUIRED, IT IS RECOMMENDED THAT THE SYSTEM BE CHARGED WITH REFRIGERANT BY SIGHT GLASS ONLY. ENTIRE SYSTEM WILL HOLD APPROXIMATELY 2.5 LBS. OF REFRIGERANT

DANHARD, INC.

3839 DILIDO ROAD DALLAS, TEXAS 75228 PHONE: 1 (214) 326-8541

ASSURANCE FOR GOOD DRAINAGE — SURE DRAIN AIR RESTRICTOR —



SOLVES DRAINAGE PROBLEMS:

1. WHEN EVAPORATOR BLOWER DRAWS AIR UP THROUGH DRAIN TUBES, NOT ALLOWING DRAIN WATER TO ESCAPE.
2. WHEN OUTSIDE AIR PRESSURE BLOCKS DRAIN WATER FROM COMING OUT DRAIN TUBES.
3. THIS PART WILL ELIMINATE THE POSSIBILITY OF DRAIN BLOCKAGE CAUSED BY RAM AIR ACROSS THE OUTLET OF THE DRAIN TUBE AT HIGHWAY SPEEDS AND ALLOWING THE CONDENSATE WATER TO FLOW FREELY.

DIRECTIONS:

1. JUST INSERT DRAIN PLUG INTO END OF DRAIN TUBES AS SHOWN 1/16" PAST END OF DRAIN TUBE WITH THE NARROW END DOWN.
2. DUE TO THE DIFFERENT LENGTHS OF DRAIN TUBES REQUIRED FOR VARIOUS UNITS, THIS PART MUST BE INSTALLED BY THE INSTALLING DEALER AFTER THE CORRECT LENGTH HAS BEEN DETERMINED.

NOW!

ALL COMPLETE DANHARD A/C UNITS ARE SUPPLIED WITH THESE AIR RESTRICTOR DRAIN PLUGS TO BE INSTALLED IN THE DRAIN TUBES.

