

of the pulley must be to the front, and the shoulder bolt should be tightened to 40-45 ft. lbs. of torque.

E. INSTALL THE CONDENSER

- Place the condenser 1/4" to 5/8" in front of the radiator with the refrigerant fittings on the same side of the radiator as the compressor. The 1/2" fitting must be on the top and the 3/8" fitting on the bottom.
- With the condenser in mounting position, determine the location and position of the condenser brackets to be used. The condenser may be secured in position by one of two methods.
 - Attaching the condenser brackets (supplied with the condenser) to the condenser flange then to the radiator cowl.
 - Using special condenser mounting brackets (supplied with the adapter kit). NOTE: It may be necessary to modify or trim some parts of the vehicle to obtain clearance for the condenser.
- Secure the refrigerant hoses to the condenser.
- Secure the condenser in position.
- Reinstall the radiator in its original position.

F. INSTALL THE FAN

NOTE: A heavy duty fan will improve the efficiency of the cooling system in any vehicle; therefore, we recommend their use for maximum unit performance. It will be important to use a heavy duty fan when the vehicle is driven in parts of the country that have sustained temperatures above 90°F or when driven in heavy stop and go traffic.

Be certain the fan clears the clutch, drive pulley, and radiator.

G. INSTALL THE DRIVE BELT

Install the compressor drive belt around the pulleys and adjust belt tension by rotating the idler eccentric. If a belt tension gauge is used, new belts should be tensioned 90-100 lbs. and used belts 65-75 lbs. If a belt tension gauge is not used, a properly adjusted belt will depress 5/8" per foot of belt span. CAUTION: Do not over-tighten belt. NOTE: The belt should be checked for tension after a few hours of operation; usually one week is sufficient.

H. POSITIONING THE STANDARD UNDER-DASH EVAPORATOR CASE ASSEMBLY

(for custom evaporator kits, follow the instructions supplied with the custom evaporator)

- Hold the evaporator case in mounting position parallel to the underside of the dash, keeping the unit as close to the exact center as possible. Insure sufficient clearance for accelerator pedal, glove box, and any other accessories. Mark hole locations for mounting brackets and condensate drain hoses (these brackets are a universal type angle bracket and may be adjusted to meet any mounting situation.)
- After marking hole locations for refrigerant hoses, mounting brackets, and drain hoses, remove evaporator case from vehicle.
- Remove and relocate switches or other obstructions attached to underside of center section of dash.

I. LOCATE HOLES FOR CONDENSATE DRAIN HOSES

- Locate holes for condensate hoses in floorboard behind the evaporator case assembly location. Check hole locations to be sure hoses will not be obstructed on underside of floorboard when installed.
- On cars with carpeted flooring instead of a rubber mat, cut carpet with a knife, using an "x" pattern. Lift carpet insulation at cut to provide clearance for hole saw so that carpeting and insulation will not snag and unravel on the hole saw.

J. INSTALL REFRIGERANT HOSES

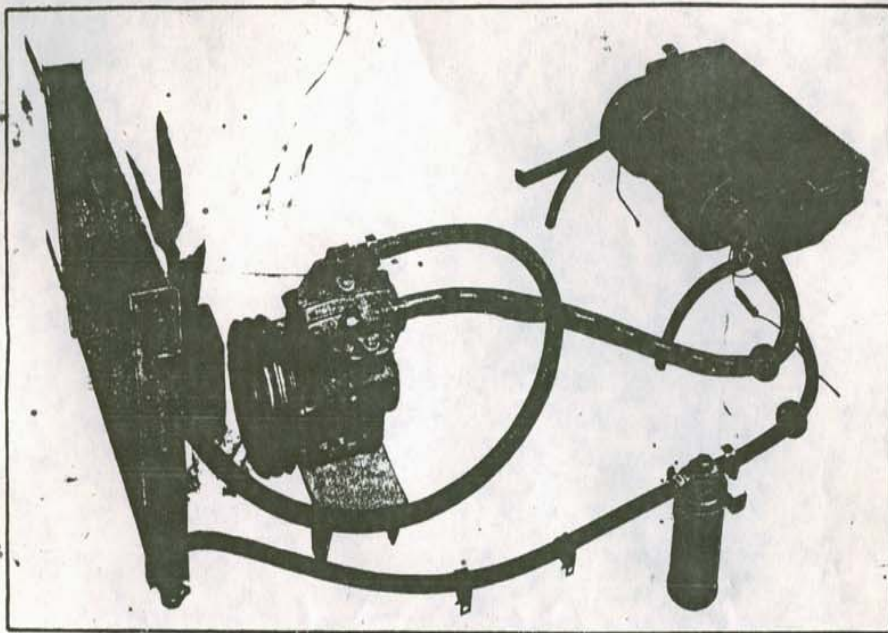
PRECAUTIONS:

- Use refrigerant oil on all hose fittings and connections.
 - Caps and plugs should not be removed until refrigerant hoses are ready to be connected.
 - Avoid sharp bends when installing hose and do not clamp hoses too close to the compressor. Route hoses so that they do not touch hot or moving parts of the engine.
 - Where hoses pass thru the firewall and radiator cowl, install grommets to prevent cutting hoses on sharp metal edges.
- These steps must be followed to install a hose on a push-on fitting.
 - Cut the hose with a knife and clean any fragments out of hose. Do not use a hack saw.
 - Oil the inside of the hose and outside of fitting.
 - Clamp must be positioned so that tab is over end of hose and flush with end. This must be done in order that the clamp be properly positioned on the hose and over the barbed section of the fitting.
 - Push hose on fitting with rotating motion until the fitting is completely inserted in the hose.
 - Tighten clamp.
 - Slide necessary grommets and hose clamps on before installing hose.
 - Cut 1/2" refrigerant hose to length and install on compressor discharge valve.
 - Insert 5/8" refrigerant hose thru hole cut in the firewall and connect the 5/8" hose to the evaporator. CAUTION: Be sure to remove the rubber plug from the suction connection at the evaporator. Cut hose to length and install on the suction port of the compressor.
 - Insert 3/8" hose thru hole cut in firewall and connect the hose fitting to the evaporator expansion valve.

NOTE: This hose must be routed by the receiver-drier and with enough length to cut the hose and connect it to the receiver-drier fittings.
 - After the hoses are connected to the evaporator wrap the metal portion of the suction hose and the exposed portion of the expansion valve diaphragm on the evaporator. This will prevent these lines from forming condensate which might drip on the floor of the vehicle.
 - Locate suitable location for receiver-drier on fender-well of vehicle and secure. Receiver-drier should be as close to upright as possible.

IMPORTANT: Inlet of receiver-drier faces condenser and outlet faces evaporator, do not reverse the receiver-drier.
 - Cut 3/8" refrigerant hose at location of receiver-drier. Install hoses to receiver-drier.
 - Seal gaps where hose passes thru firewall with Permagum sealant supplied in kit.
 - Install hose clamps as necessary to secure hoses in position. Secure all hoses with clamps.

GENERAL INSTRUCTIONS



A. PREPARATION

- Check parts received against parts list for broken or missing parts
- Disconnect battery as a safety precaution.
- Drain and retain coolant from radiator.
- Disconnect and cap transmission coolant lines from the radiator.
- Remove engine fan and shroud.
- Remove radiator for easier drive pulley and condenser installation. NOTE: On some vehicles, removal of the radiator is not necessary.

B. COMPRESSOR DRIVE PULLEY

- On some vehicles you will be able to use a groove on the original drive pulley, others you will have to install either a replacement or an add-on compressor drive pulley.
- Refer to the illustration supplied with the adapter kit for detailed instructions for installing the specific drive pulley. CAUTION: When installing a drive pulley be certain the seating surfaces are clean and that all the bolts are tightened evenly.
- Check for pulley wobble.

C. INSTALLING THE COMPRESSOR AND CLUTCH

- It is usually convenient to attach the clutch to the compressor before the compressor is installed on the mount. (Follow the instructions and use hardware supplied with the clutch.)

- The clutch wire will be attached to the thermostat wire routed along the 5/8" suction hose.
- Place compressor mount in its approximate mounting position. If at this time it becomes apparent that the compressor mounting bolts will be inaccessible when the compressor mount is attached to engine, it will be necessary to install the compressor first, then attach the compressor mount assembly to the engine. If the compressor mounting bolts will be readily accessible, secure the compressor mount to the engine, then install the compressor to the compressor mount.

D. INSTALL THE COMPRESSOR MOUNT ASSEMBLY

- With the mount held in its mounting position, determine the mount attaching points and engine bolts to be removed.
- Follow the instructions contained in the adapter kit to determine the proper length and size of bolts and spacers to be used when installing the compressor mount.
- Tighten all bolts evenly to prevent warpage of the mount.

NOTE: On aluminum block engines, use an "anti-seize" compound on all bolts.
- Install the idler eccentric/s and idler pulley/s. The idler pulley/s must align with the compressor clutch and drive pulley within a plus or minus 1/16". Idler pulley alignment can be corrected by adding or subtracting the spacers and/or spacing washers, found in the idler sack assembly, between the eccentric and the idler pulley. NOTE: When installing the idler pulley/s the "snap" ring

K. INSTALLING ELECTRICAL WIRING

1. Connect short 14 ga. wire extending from evaporator case to the accessory terminal on ignition switch or the fuse panel if provision has been made for an air conditioner.
2. Route the long 16 ga. wire from the evaporator case along 5/8" refrigerant hose thru the firewall and connect it to the wire from the electric clutch.
NOTE: Tape wire to suction hose to prevent contact with moving or hot parts of the vehicle.
3. Connect car battery.

L. INSTALL EVAPORATOR CASE ASSEMBLY

Install evaporator drain hoses. Using screws, mount evaporator case assembly to dash, extending condensate drain hoses thru holes in floorboard. If hoses do not extend thru floorboard, water draining from the evaporator pan will damage carpet.

M. EVACUATE AND PARTIALLY CHARGE THE SYSTEM

1. Add refrigerant to the system until a pressure of 40 psi is reached on the high and low side gauges. Check for leaks with a propane leak detector or soap solution and repair as necessary.
2. Attach manifold gauge to compressor valves.
3. Attach manifold gauge charging hose (center hose) to vacuum pump and start pump. Open both manifold valves slowly to prevent discharge of oil from the compressor and triple evacuate the system to 29" of Mercury.
4. Close both charging manifold valves for five minutes. Check low side reading before closing. If reading shows a rise in pressure after closing valves, check the system for leaks.
5. Repair leaks as necessary. Re-evacuate the system.
6. Close the manifold valves and disconnect the charging hose from the vacuum pump.
7. Attach the manifold charging line (center line) to the charging valve on the refrigerant can or drum. Be sure that the can or drum is right side up for refrigerant.
8. Open refrigerant can or drum charging valve slightly to allow refrigerant to flow into the charging line.
9. Partially open the charging line fitting at the manifold gauges to purge air from the line. Purging is very important because air and moisture in the line will cause problems in the system. As soon as the line is purged, tighten the fitting.
10. Open the refrigerant can or drum charging valve all the way and open manifold valve to suction service valve. Do not attempt to charge the system through the discharge service valve as it will create increased pressure in the refrigerant can or drum; and the can or drum may explode.

N. FULL CHARGE INSTRUCTIONS

1. Start the car engine, set on fast idle, and on hot days place a large fan in front of the radiator, blowing on condenser coil and radiator.
2. Connect the second can of refrigerant to the charging hose and continue to charge the system. CAUTION: Vent the air from the charging hose before proceeding with the charging operation.
3. Check the sight glass and when all the bubbles and foam disappear from the sight glass, the unit is fully charged. NOTE: Normal system charge 2 to 2-1/2 lbs. of R-12.

4. Close the low side manifold gauge valve. At a temperature of 80° the low side gauge should read 20-40 psi and the high side gauge should read 180-200 psi (higher on warmer days and lower on cooler days.)
5. Close refrigerant can or drum charging valve all the way and disconnect charging line from refrigerant can or drum. CAUTION: Be certain that the charging line is pointed downward and away from the face and other parts of the body as well as from the vehicle paint.
6. Disconnect the manifold lines from the compressor and replace the compressor valve port caps.

O. CHECK OUT AFTER CHARGING

1. Allow engine to run at fast idle.
2. Test unit for leaks.
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 car interior cool, the compressor clutch should be made to disengage and engage by moving the thermostat lever or knob.
5. Road test the car. Be sure and check for engine over-heating and noises which may be caused by the installation.
6. Recheck the belt tension. (Refer to Step G-1, Installing drive belt)
7. After repairing any discrepancies found during checking and road testing the vehicle is ready for delivery to customer.