CJ Series installation directions

The Nostalgic Air Parts team would like to thank you for your recent purchase of a complete a/c kit for your car or truck. There are a few steps that must be followed in order for your a/c system to operate properly.

1. The HIGH SIDE gauge reading should not exceed 200 PSI. We MUST have the HIGH SIDE gauge reading if you need any assistance in correcting a potential problem.
2. If you purchased the a/c compressor from NAP, DO NOT ADD ANY OIL, DYE, LEAK SEALANTS, OR OTHER ADDITIVES TO ANY PART OF THE SYSTEM. If oil is required NAP will provide an additional sheet with directions on filling the system with oil.
3. Be sure you have the correct pulleys for the engine prior to installing the kit. Pulleys are not included unless specified when the kit is ordered.
4. Insulation is very important. Be sure to insulate the firewall and floorboard prior to installing the evaporator unit. It is very important to insulate the floor and firewall behind the evaporator unit
5. There should be adequate airflow from the radiator fan, and a sufficient amount of room between the condenser and radiator. Make sure the CONDENSER HAS A TUNNEL EFFECT OF AIRFLOW THAT FLOWS THROUGH THE CONDENSER AND RADIATOR. Foam can be put in between condenser and the radiator edges to achieve a proper airflow effect. There should be ¼" to 1" gap in between the radiator and condenser. EFFECTS OF INADEQUATE AIRFLOW: the compressor may act like it is "locking up", warm air only from the vents, overheating of the engine, high head pressure, air blows cold at idle and blows warm while driving, and more.
6. Find the proper flow of the water prior to installing the heater control valve. Water should be turned off prior to entering the evaporator / heating unit. It should only be turned off when the heat is needed. If you are experiencing warm air out of the evaporator check the compressor low side fitting. If it is ice cold then the heater valve is not hooked up properly.
7. DO NOT USE THE SIGHT GLASS! The system should be charged with R-134a ONLY. If you do not follow this instruction your warranty may be void and you may not be eligible for technical assistance. EFFECTS OF OVERCHARGING: Compressor is "noisy", engine overheating, warm air only from the vents, and more.
8. If a problem exists after checking all these conditions you may call or email for technical assistance. IF YOU DO NOT HAVE THE HIGH SIDE GAUGE READING WE WILL NOT BE ABLE TO ASSIST YOU IN FIXING THE PROBLEM.

Step One: Installing the Evaporator unit

1. An under dash a/c unit mounts under the dash in the area of your choice. If you have gauges, or a radio under the dash they must be relocated. If the vehicle is a stick shift make sure the unit clears the shifter prior to installation.
2. After a location has been selected attach the included "L" brackets to the evaporator unit. Hold the unit up to the bottom of the dash and mark the holes on the bottom of the dash where the "L" brackets will screw to. Unbolt the "L" brackets from the unit and mount the brackets to the dashboard.
3. If the expansion valve is not attached to the unit, you must attach it at this point.
4. The expansion valve will mount to the smaller tube on the evaporator unit. If the valve is already attached disregard this step.
5. The expansion valve will require a # 8 O-ring when connecting it to the evaporator. The bulb on the valve will attach to the large tube on the evaporator, see pictures for details. There will be a "C" clip in the package to attach the bulb.

Bulb and "C" clip attached to the evaporator tubes.

6. After the expansion valve bulb and "C" clip are attached place some black insulation tape over the tubes and expansion valve. Do not cover the threads or hex area of the tube. More tape will be needed later to cover all the connections and fittings.

7. After the unit is ready to install, and the a/c hoses are attached (step six) the unit can be mounted for the final time. Be sure to cover the fittings with the extra black insulating tape after the hoses are attached.
8. Prior to installing the a/c lines find a location in the firewall to run the hoses through. Select according to which side of the unit the fittings are on and which side of the engine the compressor is on. Be sure to use the grommets to protect the hoses when running them through the firewall. The grommets will require a 1-1/4" hole, unless it is a large single grommet for both hoses.
9. The drains need to be run through the floorboard, the hole for the drain tube should be ¾". Run both drains through the floor; if you wish to run a single drain tube through the floor, we sell drain tees and elbows.

Step Two: Controls and wiring

1. The controls can be mounted in many different locations, arrangements, and distance from the unit. The important step is to insert the silver probe on the thermostat into the evaporator coil. This probe will be inserted into the evaporator coil. The probe MUST go into the coil at least 1.5 inches to 2 inches. It does not matter where it enters the fins on the evaporator, it is only important that it is inserted. Be careful when unwinding the coil, they are fragile and if they are broke they have to be replaced.
2. After the probe is inserted and the controls are ready to install it is time to wire the unit. There is a three-plug wire on the controls and the evaporator unit, the plug will have to male and one female barrel connector, they plug together. There will be a ground wire on the back of the unit; it will have to be grounded. If the unit does not have a black wire with a loop, it will have a stud on the back of the unit. This stud must be grounded, run a wire from a ground location to the back of the unit.
3. Please note, many units have different color wires. If the thermostat is not hooked up to the blower switch with a jumper and the thermostat does not have a long wire coming off of it, this will have to be done first. On the back of the five prong fan switch there will be one spade connector designated with a "C" this is to be connected to the thermostat, the other connector on the thermostat goes to the compressor. There is not any particular way to hook them up. The final wire on the controls is the ignition wire; this wire will have a FUSE in it. Hook this wire up to a hot source that is turned on with the key.
4. The wire that is on the thermostat that connects to the compressor will hook into a safety (hi/lo or binary) switch prior to plugging it into the compressor. It is hooked up in series from the thermostat to the binary to the compressor. A binary switch is recommended, but not necessary. The switch will protect the system if a problem occurs. The switches are not included with kits they must be purchased separately.
5. Some controls are vacuum or electric, separate directions will be included for these setups.
6. DO NOT HOOK UP THE COMPRESSOR WIRE UNTIL THE SYSTEM IS TO BE CHARGED, DOING SO COULD CAUSE MAJOR HARM TO THE COMPRESSOR.

Step Three: Installing the condenser

1. There are three different style condensers, a horizontal condenser that is used on most cars from 1951 and newer vehicles, a vertical condenser that is used on 1950 and older vehicles, and the remote condenser which is mounted in locations other than in front of the radiator. Any condenser, regardless of style will have to be mounted so the small fitting, #6, is on the bottom. If you are mounting a remote condenser it must be on a slight angle so the refrigerant and oil can flow downward.
2. When mounting the condenser in front of the radiator, again make sure the small fitting is on the bottom, and the large fitting is on the top. Use the flat brackets to install the condenser, with the included screws attach the brackets to the radiator core support and to the condenser.
3. DO NOT INSTALL THE CONDENSER ON THE INSIDE OF THE RADIATOR, between the motor and the radiator.
4. Please be sure not to puncture the condenser when installing it, there are holes designated for the mounting brackets.
5. Vertical condensers should be installed the same as the horizontal.
6. Remote condensers will require a trinary switch to run the fan. These condensers should be mounted on an angle, and in a location where damage from road debris is minimal and airflow is available.
7. The condenser should be .25" to 1" away from the radiator, if more space is needed be sure to fill the sides of the condenser in with a foam fill. The object is to get a tunnel effect of air through the condenser and radiator; you do not want air to escape between the two.

Step Four: Installing the drier and binary switch

1. The drier can be installed in any location you choose, be sure to mount the drier so the fittings on the top.
2. The drier say "IN" on the top, the "IN" should be facing the front of the car, the hoses will run from the condenser "IN" the drier and out to the expansion valve.
3. If you are using R-134a Freon DO NOT USE THE SIGHT GLASS.
4. The binary switch is to be mounted in the drier. There are two plugs (hex head bolts) on both sides of the drier some driers only have one. Unscrew one plug and install the binary into the switch port. Be sure the o-ring is on the binary switch.
5. The binary switch should on be tightened one quarter of a turn past snug.

Step Five: Installing the mount kit and compressor

1. The mount kit will include directions for installation, please use the directions. Please note that mount kits are designed for engine, but many engines are built with components that do not match applications to the original setup. If the bracket does not fit exact please understand some minor fabrication may be required.
2. When installing the bracket, leave the bolts loose until the compressor is mounted. It is very easy to crack a compressor if the bracket is not installed properly. Please tighten the entire bracket in a random order while tightening do not strain any one point.
3. If a belt is not included, use a string to measure the length of the belt, or refer to the mount kit directions for the belt size.
4. Pulleys are not included with kits, unless it is specified. Chevy engines require double groove water pump pulleys, triple groove crank pulleys if running power steering, and a double groove power steering pulley.
5. When mounting the compressor be sure to make sure the hoses and charging ports clear the hood and the inner fender.
6. The compressor can be mounted with the fittings pointing in any direction. If the fittings are pointed at any angle lower than 45 degrees be sure to attach the crimped a/c hoses first. It is not recommended to mount the compressor on any angle over 45 degrees, only do so if the bracket is designed to fit the compressor on an odd angle. If the hoses are not attached first the oil can drain out, which can cause a system failure
7. THE COMPRESSOR IS FULL OF OIL NO ADDITIONAL OIL IS REQUIED. Attach the hoses, and leave the oil alone, don't add any oil to any part of the system. If oil is added the system could have many problems. A few are a sour milk smell from the vents, improper cooling, low side pressure is low, expansion valve failure, and a noisy compressor.

Step Six: A/C hose routing and installation

1. The a/c hoses are to be crimped with an a/c hose-crimping tool. Most a/c stores, and some auto parts stores have crimping tools. The hoses can be hooked up in any order you choose. The hose kit is a universal hose kit there will be left over fittings and hose when the job is done.
2. Starting with the large hose #10 or ½". This hose goes from the large fitting on the compressor to the evaporator unit. The compressor will get the fitting with the charging port, low side. This hose will run through the firewall so be sure to use a grommet, 1-1/4" hole required.
3. The next size hose is #8 or 13/32". This hose runs from the compressor to the condenser. The compressor will get the fitting with the high side charging port on it. The condenser fitting connects to the fitting at the top of the condenser. When running the hose through or around the core support make sure it is protected with loom. A hole can be rubbed into the hoses if they are against metal edges.
4. The third and fourth hose to install is the # 6 or 5/16" hose. Start with the # 6 hose that runs from the bottom fitting on the condenser to the "IN" fitting on the drier. From the drier the hose will go through the firewall and grommet, 1-1/4" hole, to the expansion valve on the evaporator. After this hose is attached, place the black insulation tape over the fittings. Keep the #10 and #6 hoses close together when routing through the firewall, it makes the evaporator installation process easier.
5. The fittings included with the hose kit can be used in any manner necessary to run the hoses without kinking the lines. Make sure the hoses do not rub edges without protection, and be sure to include O-rings on all the connections. Oil is not necessary on the o-rings, it can be added to the threads on the fittings to stop them from seizing. DO NOT USE TEFLON TAPE. Tie the hoses down from flopping around, and keep the hoses off of the exhaust.

Heater hose installation:

1. The heater hoses on the evaporator will attach into the existing heater hose connections on the engine. The hoses can be hooked up to either side of the heater core in the car. If the heater hoses are kinking due to the directions of the heater outlets and the dashboard, 180-degree pre-made hoses are available at most parts stores. This will eliminate the kinking of the heater hose under the dashboard. The heater hoses are 5/8 on the heater core, if your vehicle has ¾" outlets, step down adapters are available at most parts stores.
2. After the heater hoses are installed, the heater control valve needs to be placed in the heater valve. This valve MUST turn the water off prior to the water entering the heater core. If the water flows through the core, the gauges will read correct, and the temperature of the unit will only get to 65 degrees out of the vents. If you are unsure of the water flow, turn the engine over with the heater hoses disconnected from the engine to determine the direction of flow.
3. A cable is provided to operate the heater valve. This cable needs to be attached to the valve so the valve opens when the cable is pulled. The valve should go under the hood in the engine compartment. If you wish to use the original heater controls, use the existing cable to hook up to the control valve. The pull cable can be mounted in or under the dash.

Step Seven: Installing the drain tube

The drain tube goes from the drain outlets on the evaporator through the floorboard of the vehicle. The hole should be ¾" and the drain tube should be straight without any kinks, or sharp edges to cut a hole in it.