

The final steps in the a/c-system installation are the wiring, connections inside the cab and the charging of the system with refrigerant.

**Important:** Included below are the steps in this automotive procedure as shown in the episode. These steps are general guidelines that are applicable to most vehicles. With any particular vehicle, there may be procedures, specifications, settings, tolerances, components, etc. that are specific to that vehicle. There are also variations according to the type and brand of a/c-kit you select. Always consult your vehicle's service manual when undertaking significant automotive repairs, and read and follow the manufacturer's directions and precautions that come with your kit or replacement parts.

**Safety Alert:** Always wear eye protection, and follow proper safety precautions, when working with power tools.

**Safety Alert:** As a standard safety precaution, always disconnect the vehicle's negative battery cable before you begin work on any electrical or mechanical components.

### Control Panel and Wiring

- To gain access to the existing heater controls in the truck, a portion of the dash needs to be removed . This will allow the replacement of the decal on the control panel and the installation of the new switch .
  - With the dash section removed, unbolt the control panel and pull the unit forward, out of the hole in the dash.
  - Carefully remove all of the plastic knobs on the control panel and peel off the old decal on the faceplate of the panel.
  - Peel the backing off of the new label and set it in place on the faceplate .
  - A release-tab at the bottom of the control panel will free the old switch from the back of the panel.
  - Plug the new switch into the existing connector, and then plug the unit in at the back of the panel .
  - Reinstall the knobs, and bolt the control panel back in place in the dash.
  - The wiring for the a/c system is not terribly complicated. Wiring may vary depending on your kit, so read and follow manufacturer's wiring instructions carefully.
  - Following our manufacturer's instructions, a plug at one end of the wiring harness is

connected to the receiver dryer .

- A black wire connects to the thermostatic switch.
- The green wire is fed into the truck's cab.
- A wire leading from the thermostatic switch is connected to the compressor clutch. This is an important connection as it allows for proper cycling of the cooling system.
- Secure any loose wires with zip-ties.
- Reconnect the negative battery cable to the terminal.
- According to our instructions, a plug with four wires leads from the cab to the engine compartment. The green a/c wire from our kit connects to the purple wire on this plug. A test-light is used in order to ensure that this wire is still functional ( **figure J**). Since the test-light comes on when the a/c switch is turned on inside the cab, the wire is found to be OK.
- The green a/c wire is connected to the factory-installed purple wire using a crimp connection.

### Adding Refrigerant

- With the wiring complete, the a/c gauge is connected to the system. The high-side and low-side ends of the gauge are attached to the appropriate fittings according to the instructions that come with the gauge.
- The gauge's yellow hose is connected to the vacuum pump.
- With all of the connections secure, both of the gauges are opened.
- The vacuum pump is then turned on, and the gauges are checked for readings. The vacuum pump is left on, evacuating the system for 45 minutes. This removes any air and moisture from the system.
- Following the directions that came with the kit, the refrigerant is installed into the system using a can-tapper that punctures the outside of the aerosol canister. If you don't have a can-tapper, a special adapter will allow you to attach the gauge directly to the refrigerant canister.
- With the can tapped, the valves can be opened, allowing refrigerant to charge the system. Start the engine, and set the air-conditioning to maximum cooling.
- After the system has had a chance to charge, the temperature at the a/c vent is tested using a digital thermometer .
- An ultraviolet light is used to check for any refrigerant leaks. Leaks would show up under the u/v light since leak-detection dye was introduced into the system earlier.
- A sticker placed on the new a/c system would alert any repair techs later that the system contains leak detection dye. This knowledge could be used to diagnose any suspected leaks later on.
- Reinstall the grill-guard, hood, and any other parts that were removed for the installation.

RESOURCES :

***The Complete Idiot's Guide to Trouble-Free Car Care***

Author: Dan Ramsey

ISBN: 0028635833

Alpha Books

***Auto Repair for Dummies***

Author: Deanna Sclar

ISBN: 0764550896