an ISO 9001:2015 Registered Company

1955-57 Ford Thunderbird

Evaporator Kit
(551155)

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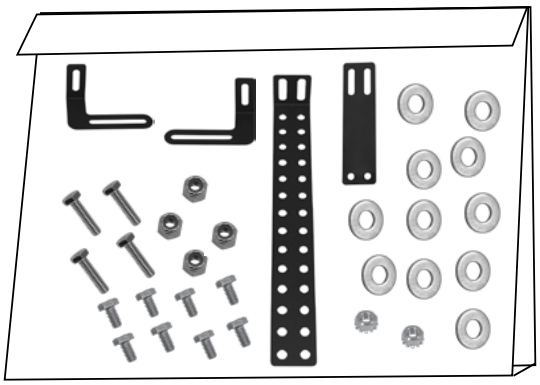
Packing List: Evaporator Kit (551155)

No.	Qty.	Part No.	Description
1.	1	746001	Sub Case, Turned, Heritage
2.	1	632079	Hardware Kit
3.	1	633002	Drain Kit

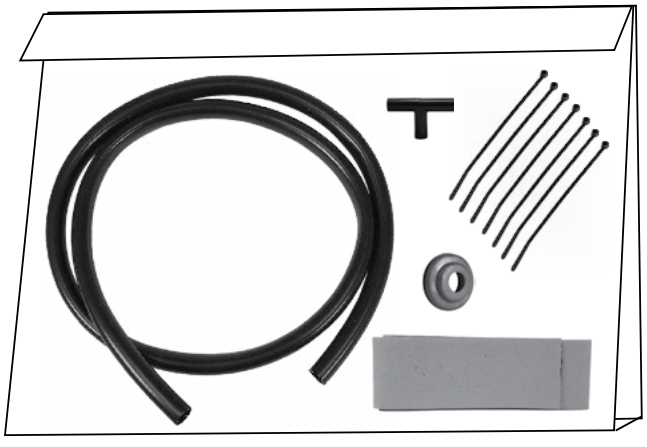
**** Before beginning installation, open all packages and check contents of shipment. Please report any shortages directly to Vintage Air within 15 days. After 15 days, Vintage Air will not be responsible for missing or damaged items.**

1

2



3



NOTE: Images may not depict actual parts and quantities. Refer to packing list for actual parts and quantities.

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Important Notice—Please Read

For Maximum System Performance, Vintage Air Recommends the Following:

NOTE: Vintage Air systems are designed to operate with R134a refrigerant only. Use of any other refrigerant could damage your A/C system and/or vehicle, and possibly cause a fire, in addition to potentially voiding the warranties of the A/C system and its components.

Refrigerant Capacities:

Vintage Air System: 1.8 lbs. (28.8 oz.) or 816 grams of **R134a**, charged by weight with a quality charging station or scale. **NOTE: Use of the proper type and amount of refrigerant is critical to system operation and performance.**

Other Systems: Consult manufacturer's guidelines.

Lubricant Capacities:

New Vintage Air-Supplied Sanden Compressor: No additional oil needed (Compressor is shipped with proper oil charge).

All Other Compressors: Consult manufacturer (Some compressors are shipped dry and will need oil added).

Safety Switches

Your Vintage Air system is equipped with a binary pressure safety switch. A binary switch disengages the compressor clutch in cases of extreme low pressure conditions (refrigerant loss) or excessively high head pressure (406 PSI) to prevent compressor damage or hose rupture. A trinary switch combines Hi/Lo pressure protection with an electric fan operation signal at 254 PSI, and should be substituted for use with electric fans. Compressor safety switches are extremely important since an A/C system relies on refrigerant to circulate lubricant.

Service Info:

Protect Your Investment: Prior to assembly, it is critical that the compressor, evaporator, A/C hoses and fittings, hardlines, condenser and receiver/drier remain capped. Removing caps prior to assembly will allow moisture, insects and debris into the components, possibly leading to reduced performance and/or premature failure of your A/C system. This is especially important with the receiver/drier.

Additionally, when caps are removed for assembly, **BE CAREFUL!** Some components are shipped under pressure with dry nitrogen.

Evacuate the System for 35-45 Minutes: Ensure that system components (Drier, compressor, evaporator and condenser) are at a temperature of at least 85°F. On a cool day, the components can be heated with a heat gun ***or*** by running the engine with the heater on before evacuating. Leak check and charge to specifications.

Bolts Passing Through Cowl and/or Firewall:

To ensure a watertight seal between the passenger compartment and the vehicle exterior, for all bolts passing through the cowl and/or firewall, Vintage Air recommends coating the threads with silicone prior to installation.

Heater Hose (not included with this kit):

Heater hose may be purchased from Vintage Air (Part#31800-VUD) or your local parts retailer. Routing and required length will vary based on installer preference.

Planning Overview

NOTE: Before starting the installation, check the function of the vehicle (horn, lights, etc.) for proper operation, and study the instructions, illustrations, & diagrams.

For performance, aesthetics, and ease of installation, Vintage Air recommends planning the air conditioning installation as early as possible during the development phase of your project. There are many factors that go into making each air conditioning installation different, including:

1. Type of vehicle/engine and location of engine.

2. Type of air conditioning equipment used.

3. Owner's preferences.

The mounting location of the evaporator unit is determined in part by the space available for the hose routing. The components used in the hose routing process (bulkhead plates, fittings and grommets, etc.) will also influence the location of the evaporator unit. When planning the hose routing, install the major components first. Mount the compressor, condenser and drier, and then temporarily position the evaporator under the dash. For proper condensate drainage, it is very important to level the evaporator both left-right and fore-aft. Place a bubble level on the bottom of the case as shown in the drain hose section on Page 7 to confirm. Left-right should be as level as possible. Fore-aft may have up to 2 degrees tilt toward the drain outlets (louvers up). Final mounting of the evaporator should not be done until you have verified that all hoses attaching to the evaporator will exit the firewall and/or kick panel as planned. Before cutting them to length, the hoses must be routed exactly the way they will be when finished.

The Vintage Air Heritage unit was designed for street rods, custom cars and trucks. The evaporator unit mounts under the dash.

Read the installation instructions completely and familiarize yourself with all of the parts and illustrations.

The installation of this unit varies, depending upon to the body manufacturer or modifications to the original body. Take your time and double check before drilling or cutting.

Check for, and fill in any holes in the firewall and floor. Insulate and seal the firewall, floor, door panels and headliner to reduce the amount of heat entering the car. Photo 1, below, shows the general location of the evaporator. Actual mounting locations will vary.

Photo 1

Bracket Assembly

1. Using (4) 9/32" flat washers and (4) 1/4-20 x 1/2" hex bolts, install the evaporator side brackets as shown in Photos 1 and 2, below.
2. Using (2) 9/32" flat washers and (2) 1/4-20 x 1/2" hex bolts, install the evaporator rear bracket as shown in Photo 3, below.
3. Locate the dash support bracket between the stereo speaker and wiper motor. Measure to the center of the dash support bracket, then mark and drill (2) pilot holes (See Photo 4, below). Using (2) #10 x 1/2" sheet metal screws, install the upper rear mounting bracket into the previously drilled pilot holes on the dash support bracket (See Photo 5, below).

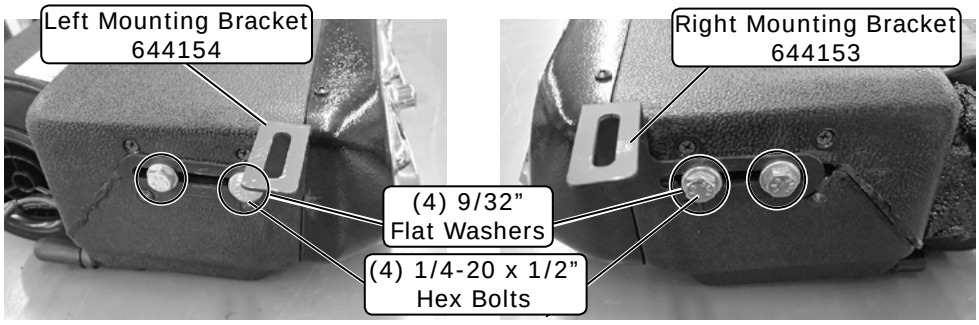


Photo 1 **Photo 2**

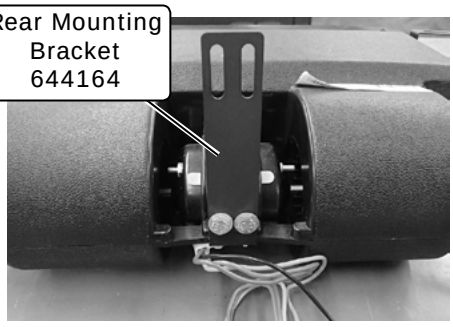


Photo 3

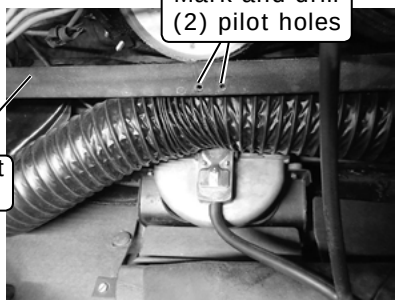


Photo 4

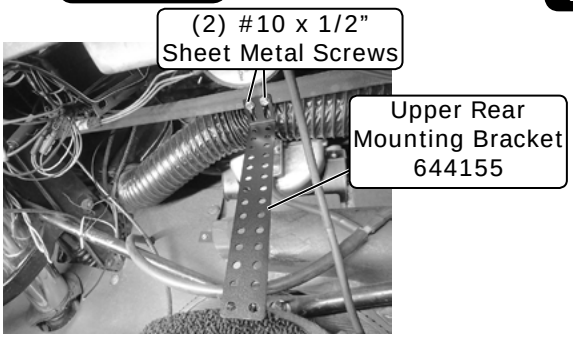
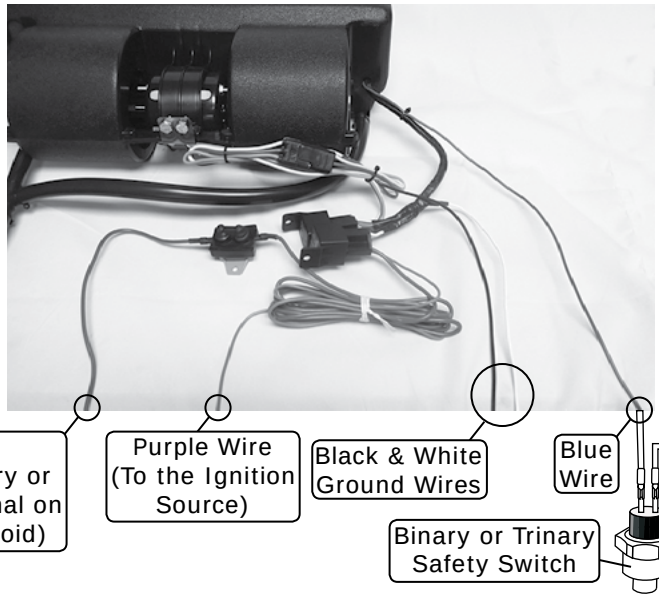


Photo 5

Wiring

1. Use the illustration below and the wiring diagram on Page 14, as a guide for routing the system wires.



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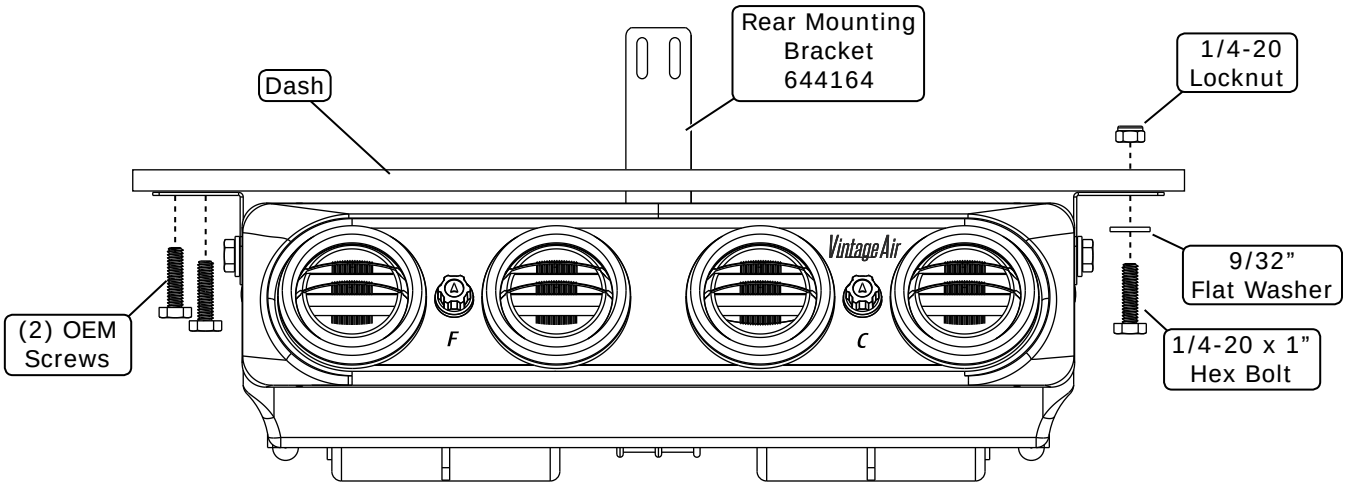
Evaporator Installation

1. Remove the (2) OEM mounting screws from the hood release bracket (retain).

2. Install the evaporator under the dash using the OEM hardware and a washer as shown in Photos 1 and 2, below.



NOTE: Rear mounting bracket can be cut or bent as needed.

Figure 1

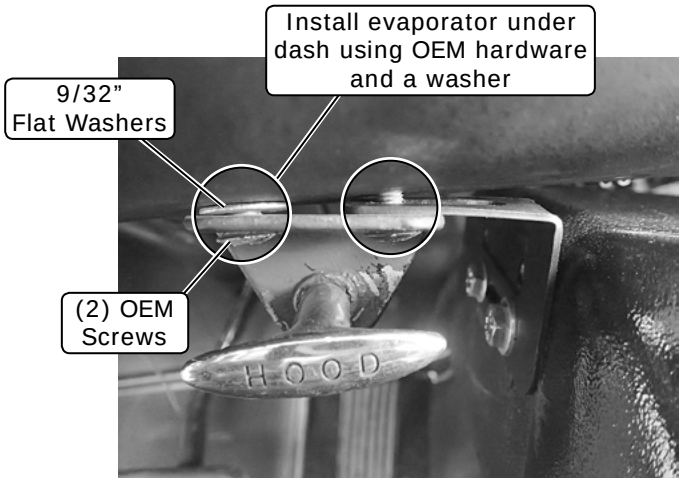
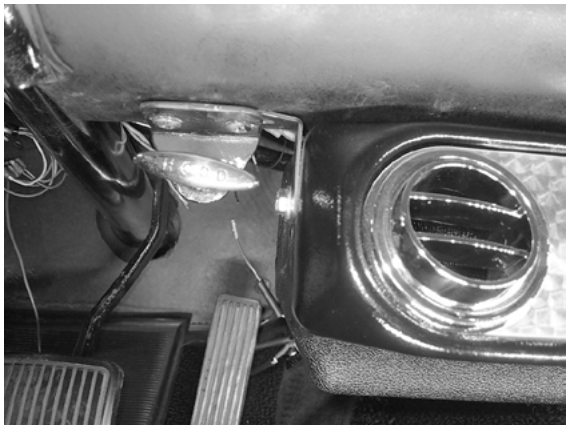


Photo 1



Completed Installation

Photo 2

Evaporator Installation (Cont.)

3. Using the passenger side bracket as a template, mark and drill a mounting hole, then secure using a 1/4-20 x 1" hex bolt, 9/32" flat washer and a 1/4-20 locknut (See Photo 3, below). **NOTE: The 1/4-20 locknut will install on the inside of the dash.**
4. Level the evaporator unit, then using (2) 1/4-20 x 1/2" hex bolts, (2) 9/32" flat washers and (2) 1/4-20 hex nuts with star washers, secure the rear evaporator bracket to the dash support bracket (See Photo 4, below).

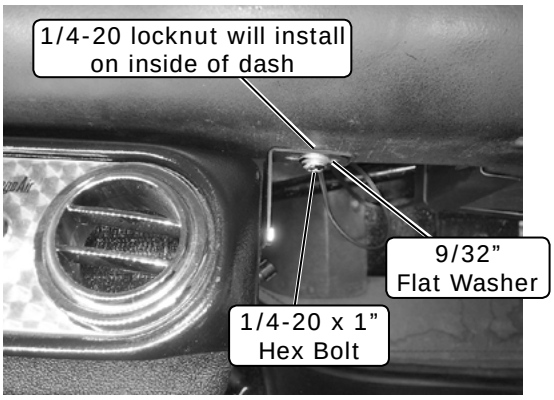


Photo 3

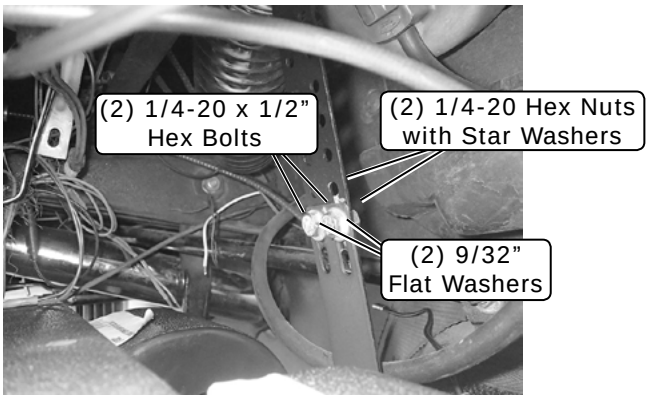


Photo 4

Drain Hose Assembly

1. Locate the (2) drain nipples at the bottom of the unit. Using Photo and Figure 1 below as a guide, assemble the drain hose and drain tee, then attach the drain hose assembly to the nipples on the unit. **NOTE: When determining the drain location, consider the following: Drain hose must be installed with a minimum 1" drop from the drain nipples on the bottom of the evaporator case to the point where the drain hose exits the vehicle. Also, be sure to route drain hose such that water drips directly onto the ground, rather than on any part of the vehicle frame. The drain hose and tee can be assembled in any configuration that meets these requirements.**

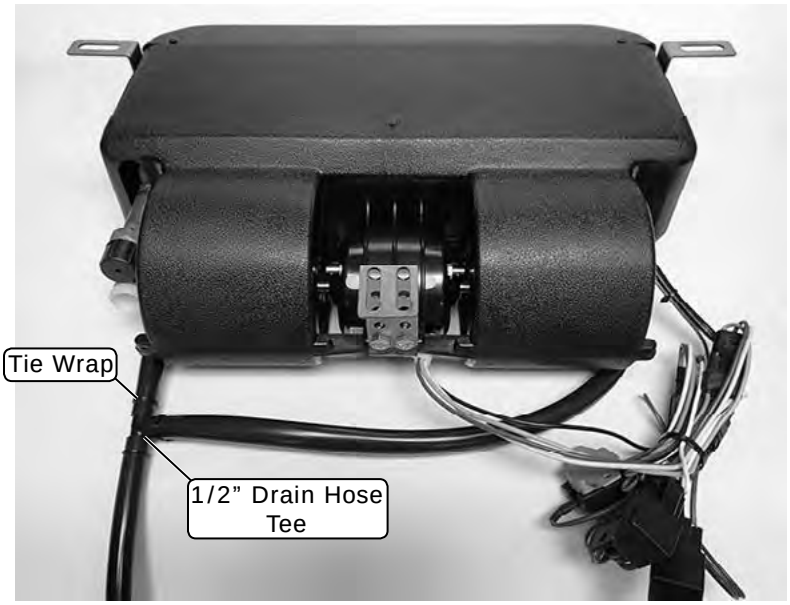


Photo 1

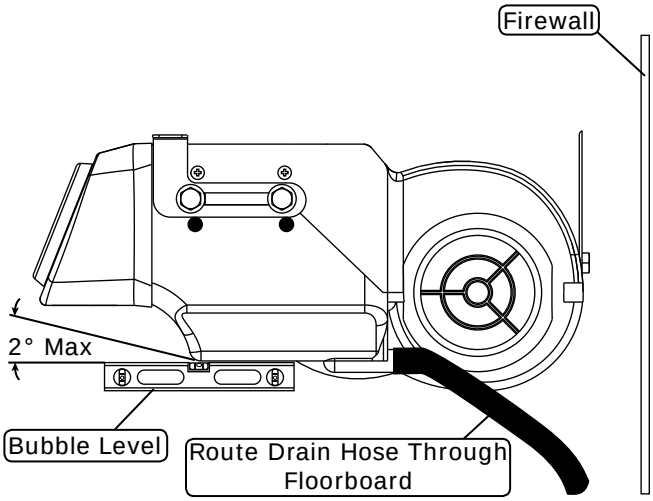


Figure 1

NOTE: Always route drain hose at an angle to ensure the system will drain properly.

Drain Hose Assembly (Cont.)

NOTE: Modification of the passenger compartment is necessary for the following step.

2. Measure from the firewall down the transmission tunnel approximately 6 ½" and 6 ½" up from the floor (See Photos 2 and 3, below). Mark and drill a 5/8" hole, then insert the drain tube. **NOTE: To ensure a tight fit for the drain hose, do not enlarge the hole more than 5/8".**

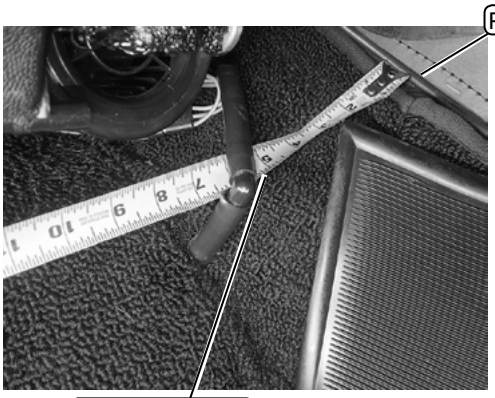


Photo 2

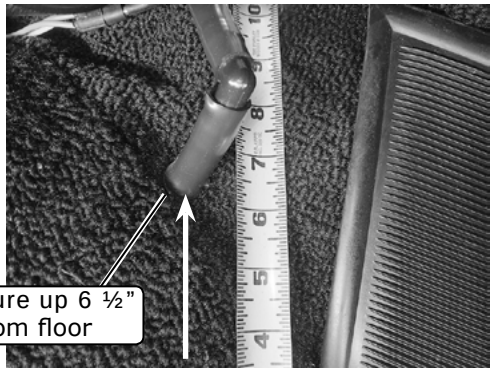


Photo 3

Fresh Air Vent Tube Modification

NOTE: This step is necessary to route the A/C hoses through the fresh air tube and into the kick panel. If routing the A/C hoses a different way, do not perform this step.

1. Measure 1 ½" from the firewall on the vent tube. Using the A/C hose plate as a template, mark and drill holes for the hoses and pilot holes for the (4) #10 x 1/2" sheet metal screws (See Figure 1, below). **NOTE: The A/C hose plate will have to be formed to the shape of the vent tube.**

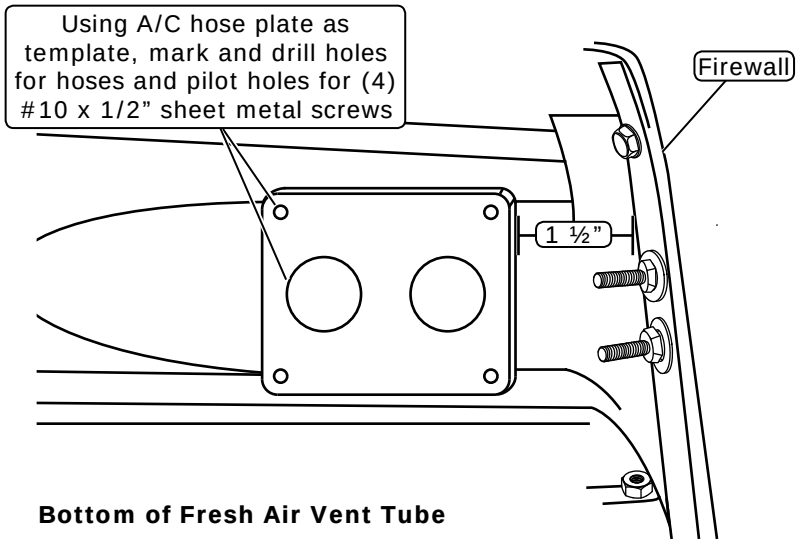


Figure 1

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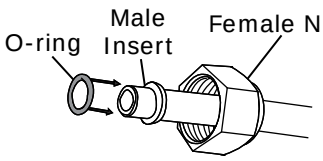
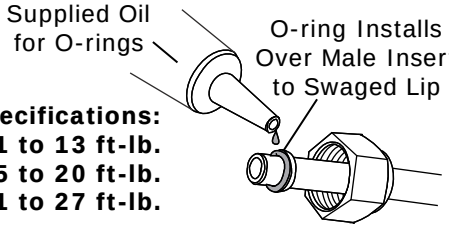
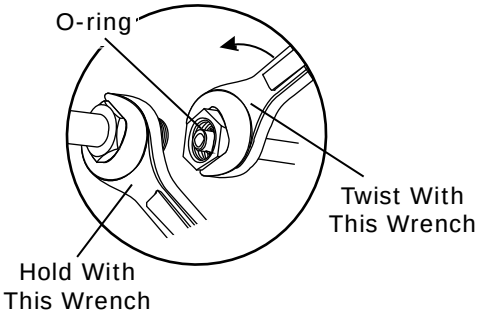
Lubricating O-rings



For a proper seal of fittings: Install supplied O-rings as shown and lubricate with supplied oil.





NOTE: Standard torque specifications:
#6: 11 to 13 ft-lb.
#8: 15 to 20 ft-lb.
#10: 21 to 27 ft-lb.

A/C Compressor Fitting Installation

1. Install the compressor block onto the compressor using (2) 8mm-1.25 x 20mm socket cap bolts as shown in Figure 1, below. Torque to 18 lb ft. **NOTE: Keep the ports sealed with caps until the A/C circuit has been completed.**

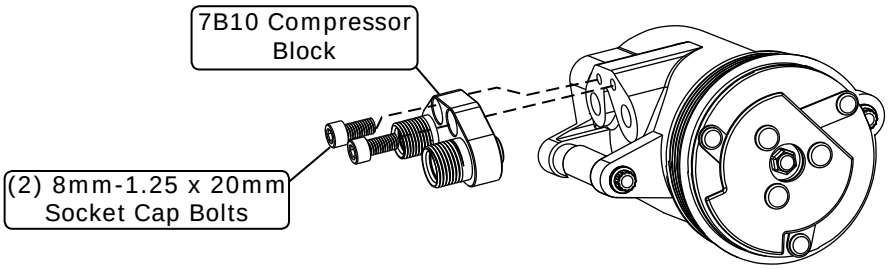


Figure 1

Modified Hose Installation

NOTE: Refer to the instructions provided with the Modified Hose Kit for information on the crimping process.

1. Route the straight fitting of the #6 A/C hose and the 90º fitting of the #10 A/C hose through the A/C hose plate and rubber boot, then into the fresh air vent tube. From the passenger compartment kick panel, pull the A/C hoses toward the evaporator unit (See Photo 1, below).

2. Install the rubber boot and A/C hose plate using (4) #10 x 1/2" sheet metal screws (See Photo 2, below).

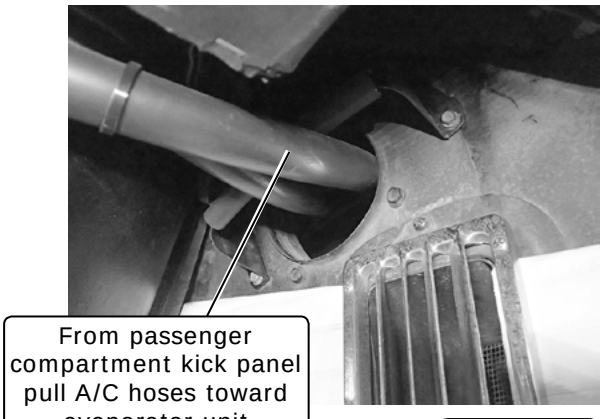


Photo 1

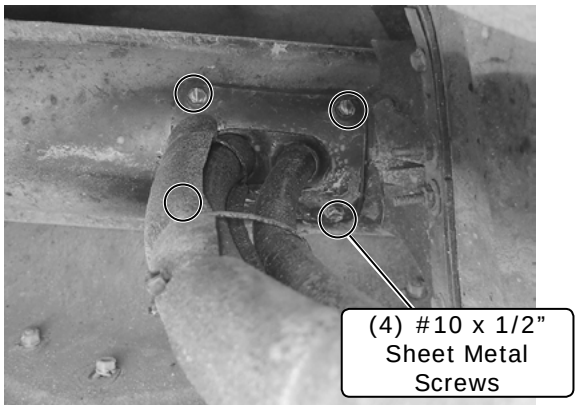


Photo 2

Modified Hose Installation (Cont.)

3. With a properly lubricated #10 O-ring, connect the #10 90º fitting to the #10 fitting on the evaporator unit. Wrap all exposed metal with the supplied press tape (See Photos 3 and 4, below).
4. With a properly lubricated #6 O-ring, connect the #6 straight fitting to the expansion valve on the evaporator unit (See Photo 5, below).
5. Use the supplied #6 and #10 Adel clamps, 10-32 x 1/2" pan head screws and 10-32 nuts with star washers to route the A/C hoses into the engine compartment as shown in photos Photos 6, 7 and 8, below.

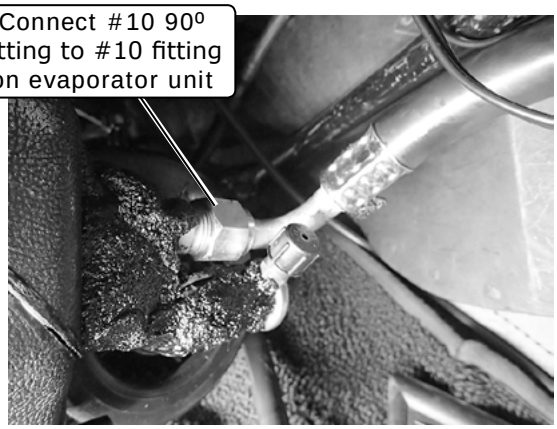


Photo 3

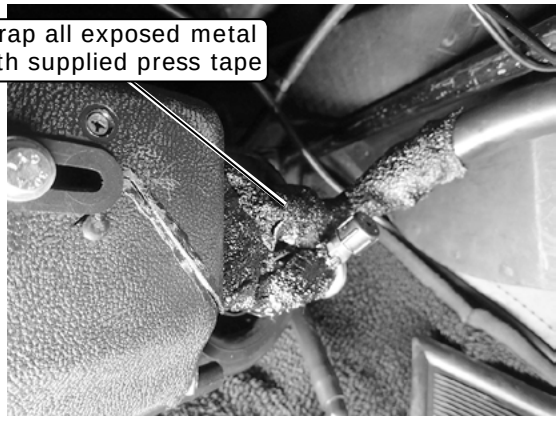


Photo 4

Photo 5

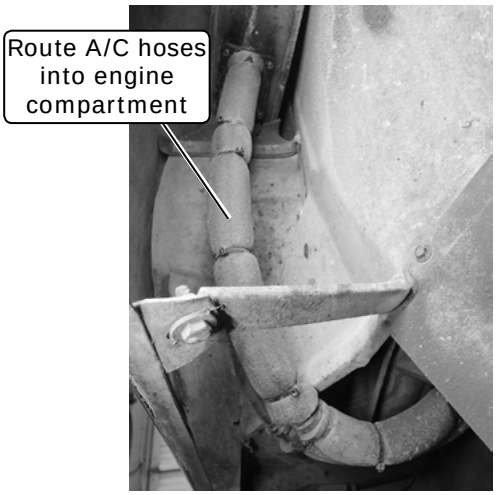


Photo 6

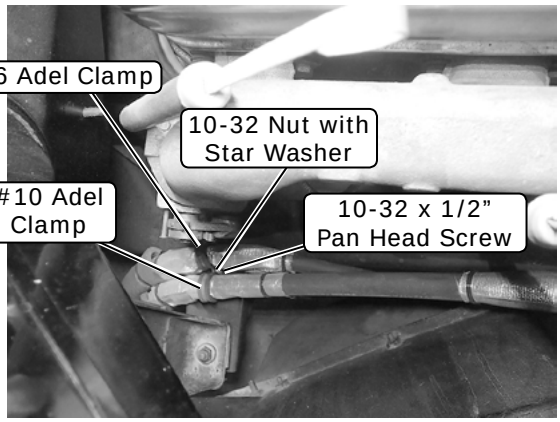
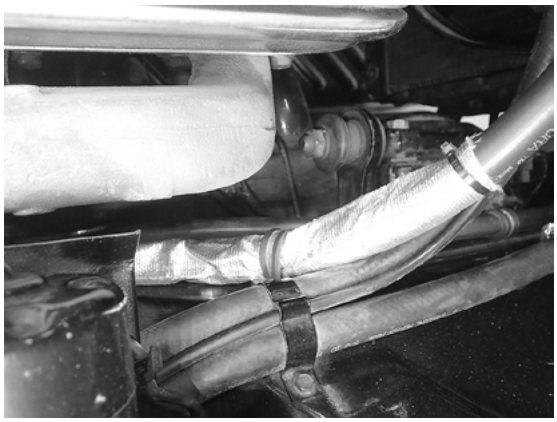


Photo 7



Completed Installation

Photo 8

Modified Hose Installation (Final)

6. Loosely install the #6 45º fitting onto the #6 condenser hardline. Measure, then mark and cut the #6 A/C hose. Remove the fitting from the condenser and crimp it onto the #6 A/C hose. Install the #6 A/C hose onto the condenser with a properly lubricated #6 O-ring (See Photo 9, below).

7. Loosely install the #10 straight fitting with the 134º service port onto the compressor (See Photo 10, below). Measure, then mark and cut the #10 A/C hose. Remove the fitting from the compressor and crimp it onto the #10 A/C hose. Install the #10 A/C hose onto the compressor with a properly lubricated #10 O-ring (See Photo 11, below).

8. Install the #8 straight fitting with the service port onto the condenser hardline with a properly lubricated #8 O-ring (See Photo 12, below). Loosely install the #8 45º fitting onto the compressor (See Photo 13, below). Measure, then mark and cut the #8 A/C hose. Remove the fitting from the compressor and crimp it onto the #8 A/C hose. Install the #8 A/C hose onto the compressor with a properly lubricated #8 O-ring (See Photo 14, below).

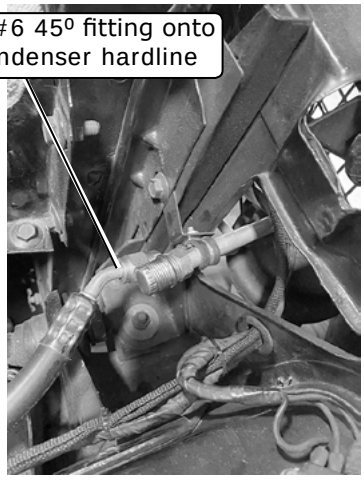


Photo 9

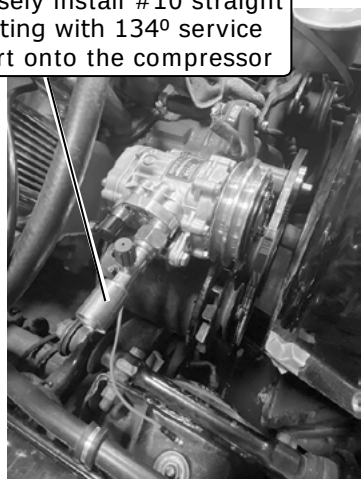


Photo 10

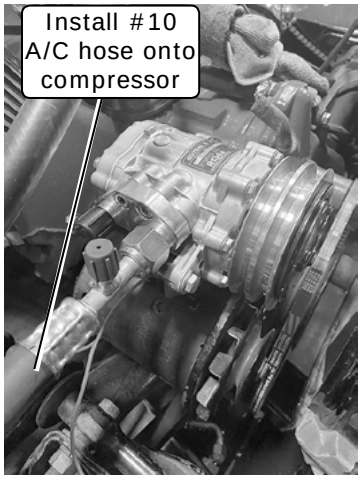


Photo 11

Photo 12

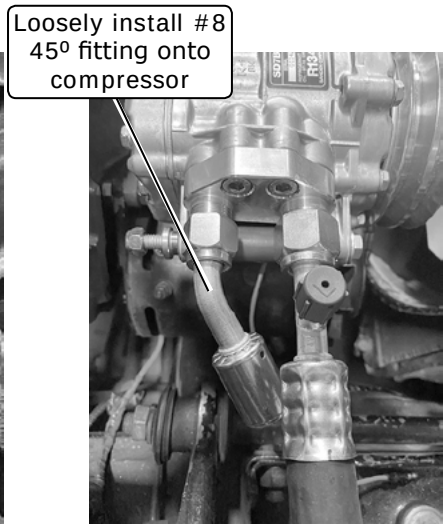


Photo 13

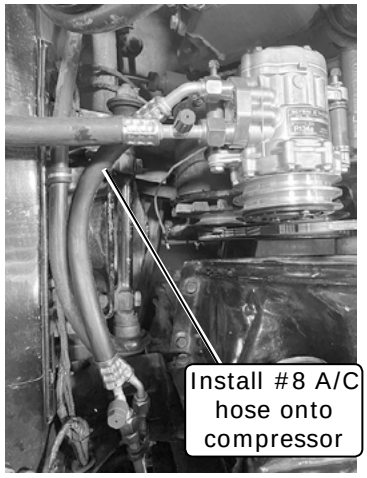


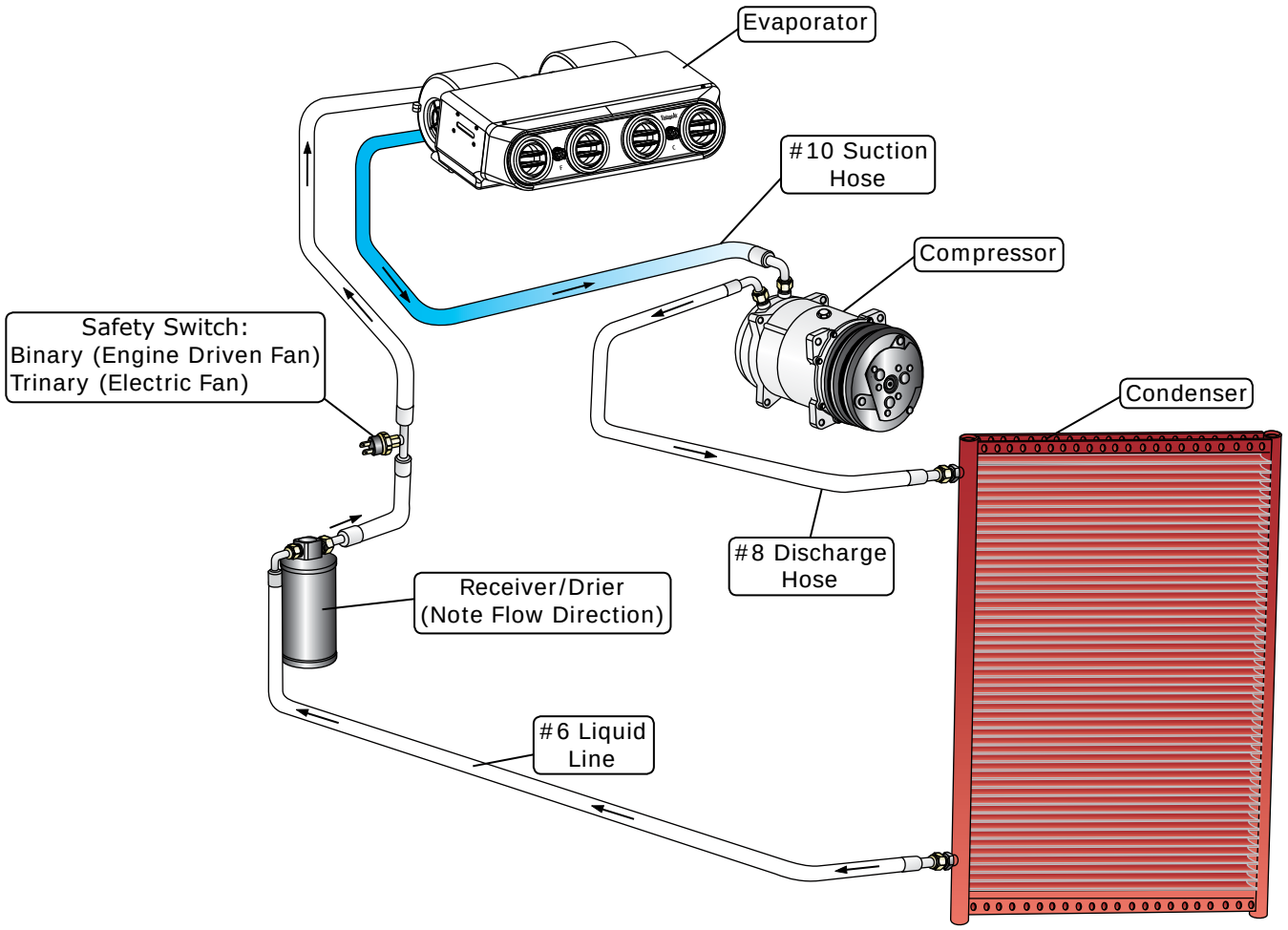
Photo 14

Final Steps

1. Double check all fittings, brackets and belts for tightness.
2. Vintage Air recommends that all A/C systems be serviced by a licensed automotive A/C technician.
3. Evacuate the system for a minimum of 45 minutes prior to charging, and perform a leak check prior to servicing.
4. Charge the system to the capacities stated on Page 4 of this instruction manual.

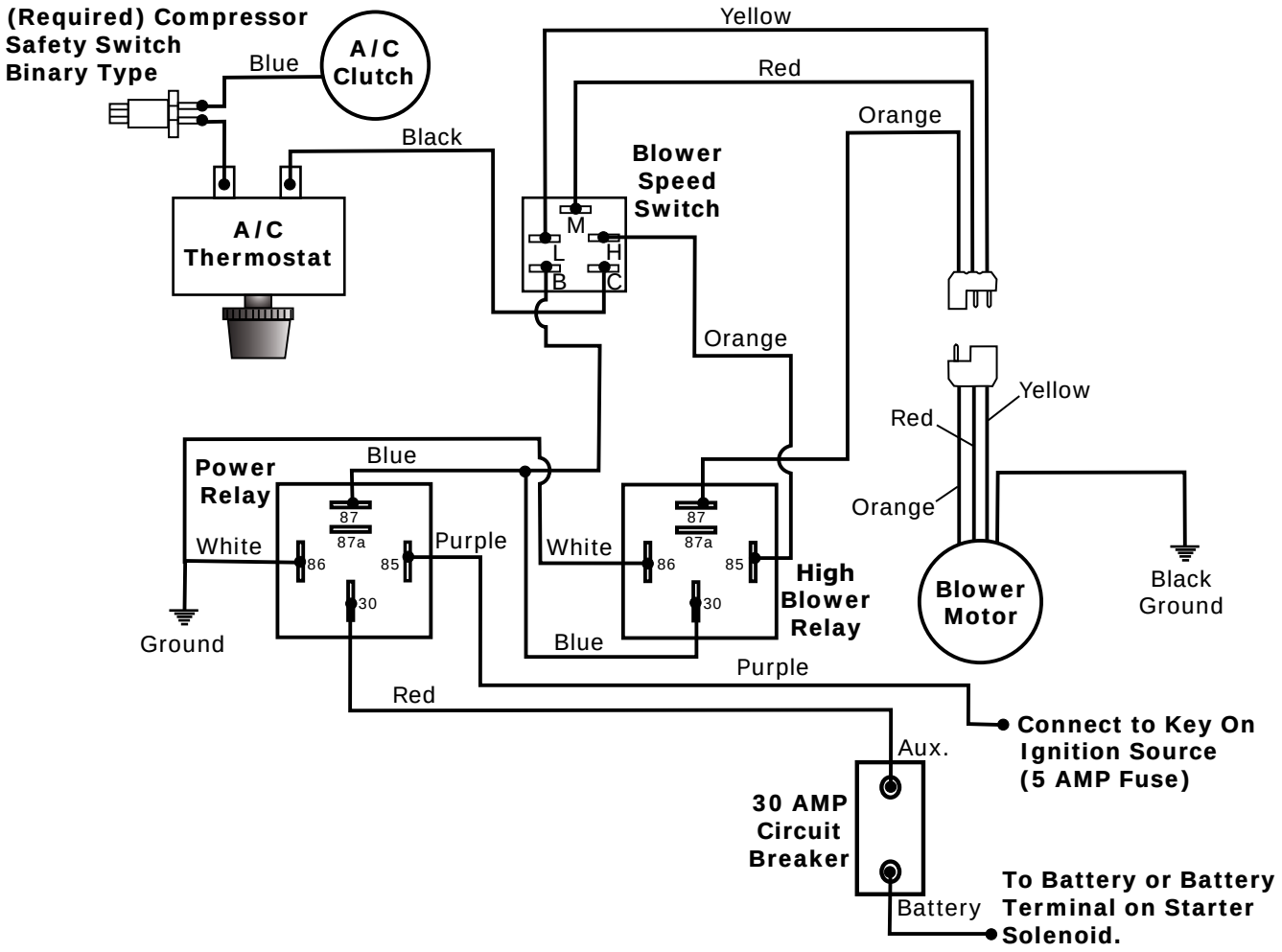
Hose Routing Diagram

NOTE: The diagram shown below is a generic reference of how the system operates. The condenser, safety switch and hose fittings shown may be illustrated differently than the parts included with the kit.



NOTE: Direction of refrigerant flow indicated by arrows.

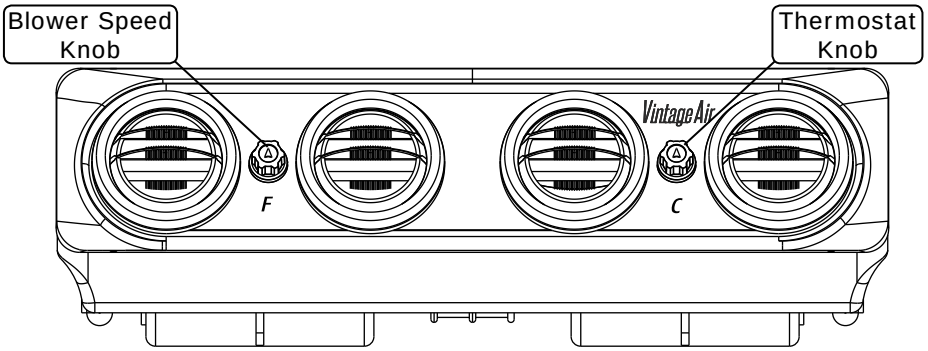
Wiring Diagram



Operation of Controls

The Heritage A/C system employs a 3-speed blower and a mechanical thermostat to control airflow and temperature.

For maximum performance and comfort, Vintage Air recommends always running the evaporator as cold as possible by positioning the “C” knob (far right) with the arrow pointing straight up, and adjusting the fan speed to the desired level of comfort. For maximum cooling, position both knobs with the arrow pointing straight up. If the vent temperature is uncomfortably cold, the output temperature can be increased by rotating the “C” knob counterclockwise. To turn the system off, rotate the “F” knob full counterclockwise.



A/C Thermostat Explained

The right knob on the Heritage system controls a mechanical A/C thermostat. This thermostat operates differently than that of a home air conditioning thermostat. An automotive thermostat controls the temperature of the evaporator coil rather than the temperature of the air. Its main purpose is to prevent ice from forming between the fins of the coil, as ice blocks airflow and limits A/C performance. The thermostat employs a gas-filled “capillary tube” probe, which is inserted into the coldest part of the coil, and will cycle the compressor on and off in response to the temperature sensed by the probe. By adjusting the “C” knob to a position with the arrow pointing straight up, the thermostat will turn the compressor off at approximately 34°F at the sensing location. As a result, no ice will be allowed to form on the coil. Sometimes, in areas of very low humidity, it is possible to adjust the thermostat colder without ice forming. Adjusting the thermostat to a full clockwise position will turn off the compressor at approximately 28°F. If symptoms of evaporator icing develop, such as reduced airflow with elevated vent temperature, reduce the thermostat setting by rotating the “C” knob counterclockwise. This will allow the evaporator to thaw.

www.vintageair.com

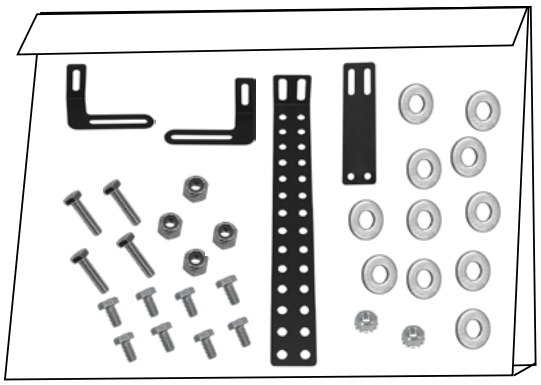
Packing List: Evaporator Kit (551155)

No.	Qty.	Part No.	Description	
1.	1	746001	Sub Case, Turned, Heritage	_____
2.	1	632079	Hardware Kit	_____
3.	1	633002	Drain Kit	_____

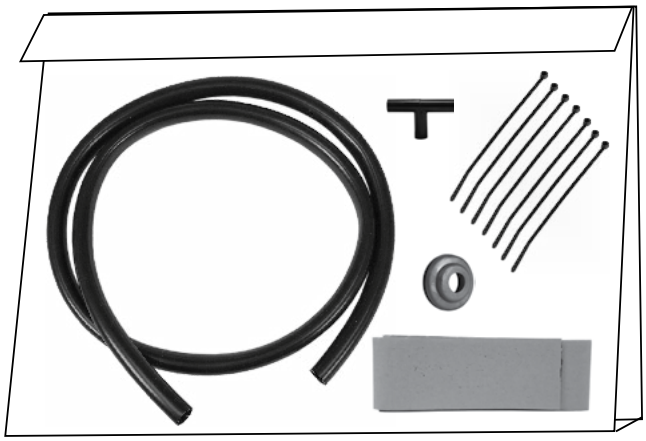
Checked By: _____
Packed By: _____
Date: _____

1

2



3



NOTE: Images may not depict actual parts and quantities.
Refer to packing list for actual parts and quantities.