



an ISO 9001:2015 Registered Company

Heater Systems Conversion to Servo Heater Control Valve Kit (461178)



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Packing List: (461178)

No.	Qty.	Part No.	Description
1.	1	231500	Wiring Adapter, Gen IV Harness to 3-Wire Valve
2.	1	220004	Connector Shell, Fastin Receptacle, 3-Position
3.	2	23114-VUW	Terminal, Female Spring, 1/4", Non-Insulated, 16-14 AWG
4.	1	231520	White Ground Wire, 12" 16 Gauge with 1/4" Male Spade
5.	1	461171	Valve, Heater Control, 3-Wire

**** 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



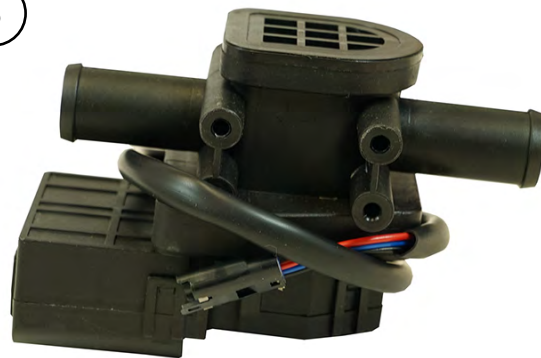
3



4



5



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



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Important Wiring Notice—Please Read

Some Vehicles May Have Had Some or All of Their Radio Interference Capacitors Removed. There Should Be a Capacitor Found At Each of the Following Locations:

- 1. On the positive terminal of the ignition coil.**
- 2. If there is a generator, on the armature terminal of the generator.**
- 3. If there is a generator, on the battery terminal of the voltage regulator.**

Most alternators have a capacitor installed internally to eliminate what is called “whining” as the engine is revved. If whining is heard in the radio, or just to be extra cautious, a radio interference capacitor can be added to the battery terminal of the alternator.

It is also important that the battery lead is in good shape and that the ground leads are not compromised. There should be a heavy ground from the battery to the engine block, and additional grounds to the body and chassis.

If these precautions are not observed, it is possible for voltage spikes to be present on the battery leads. These spikes come from ignition systems, charging systems, and from switching some of the vehicle’s other systems on and off. Modern computer-operated equipment can be sensitive to voltage spikes on the power leads, which can cause unexpected resets, strange behavior, and/or permanent damage.

Vintage Air strives to harden our products against these types of electrical noise, but there is a point where a vehicle’s electrical system can be degraded so much that nothing can help.

Radio interference capacitors should be available at most auto and truck parts suppliers. They typically are cylindrical in shape, a little over an inch long, a little over a half inch in diameter, and they have a single lead coming from one end of the cylinder with a terminal on the end of the wire, as well as a mounting clip which is screwed into a good ground on the vehicle. The specific value of the capacitance is not too significant in comparison to ignition capacitors that are matched with the coil to reduce pitting of the points.

- Care must be taken, when installing the compressor lead, not to short it to ground. The compressor lead must not be connected to a condenser fan or to any other auxiliary device. Shorting to ground or connecting to a condenser fan or any other auxiliary device may damage wiring, the compressor relay, and/or cause a malfunction.
- When installing ground leads on Gen IV systems, the blower control ground and ECU ground must be connected directly to the negative battery post.
- For proper system operation, the heater control valve must be connected to the ECU.



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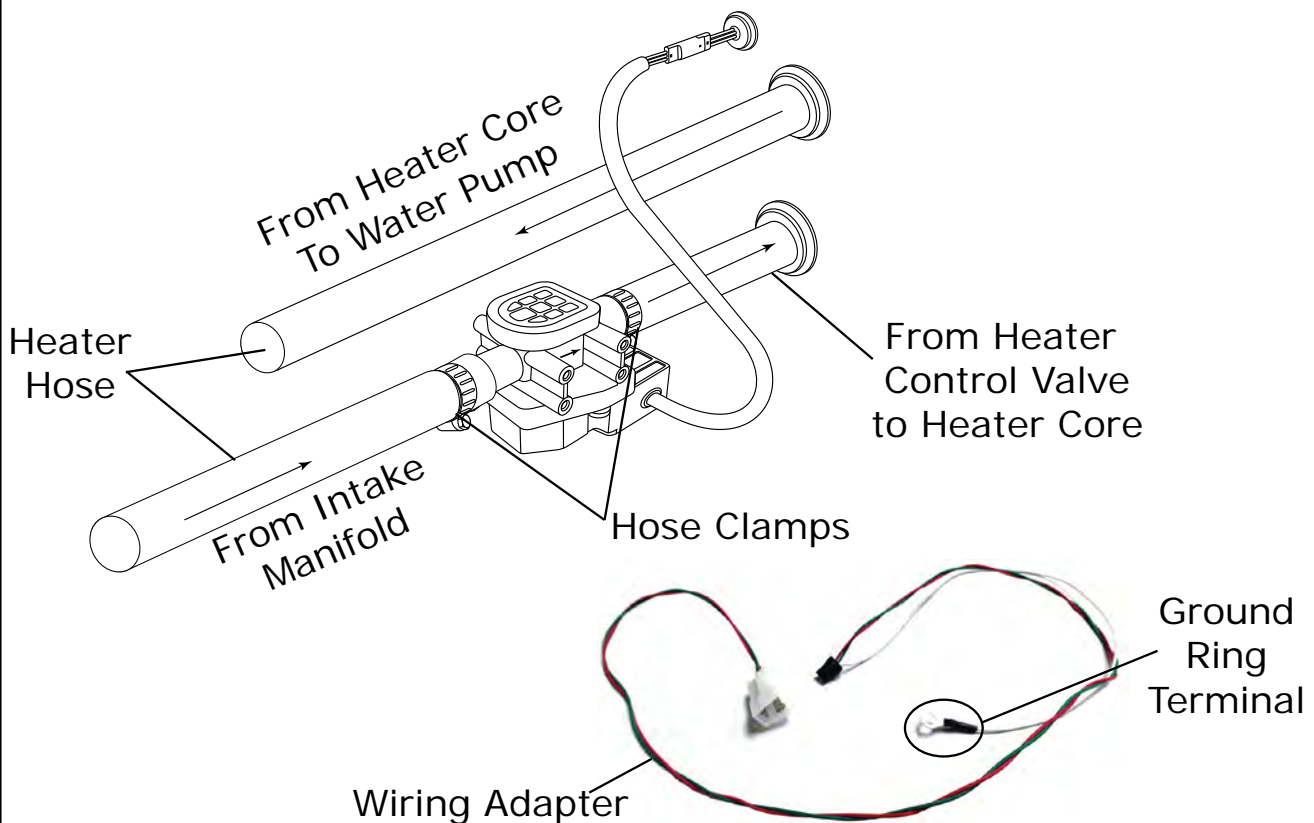
ATTENTION:

Instructions, notices and wiring diagrams included in this insert supersede those included in main instruction booklet.

Part number 46115-VUH (Solenoid Heater Control Valve) has been replaced by part number 461171 (Servo Heater Control Valve). Please see illustration below for installation and flow direction. See wiring diagram on Page 6 for proper wiring connections.

NOTE:

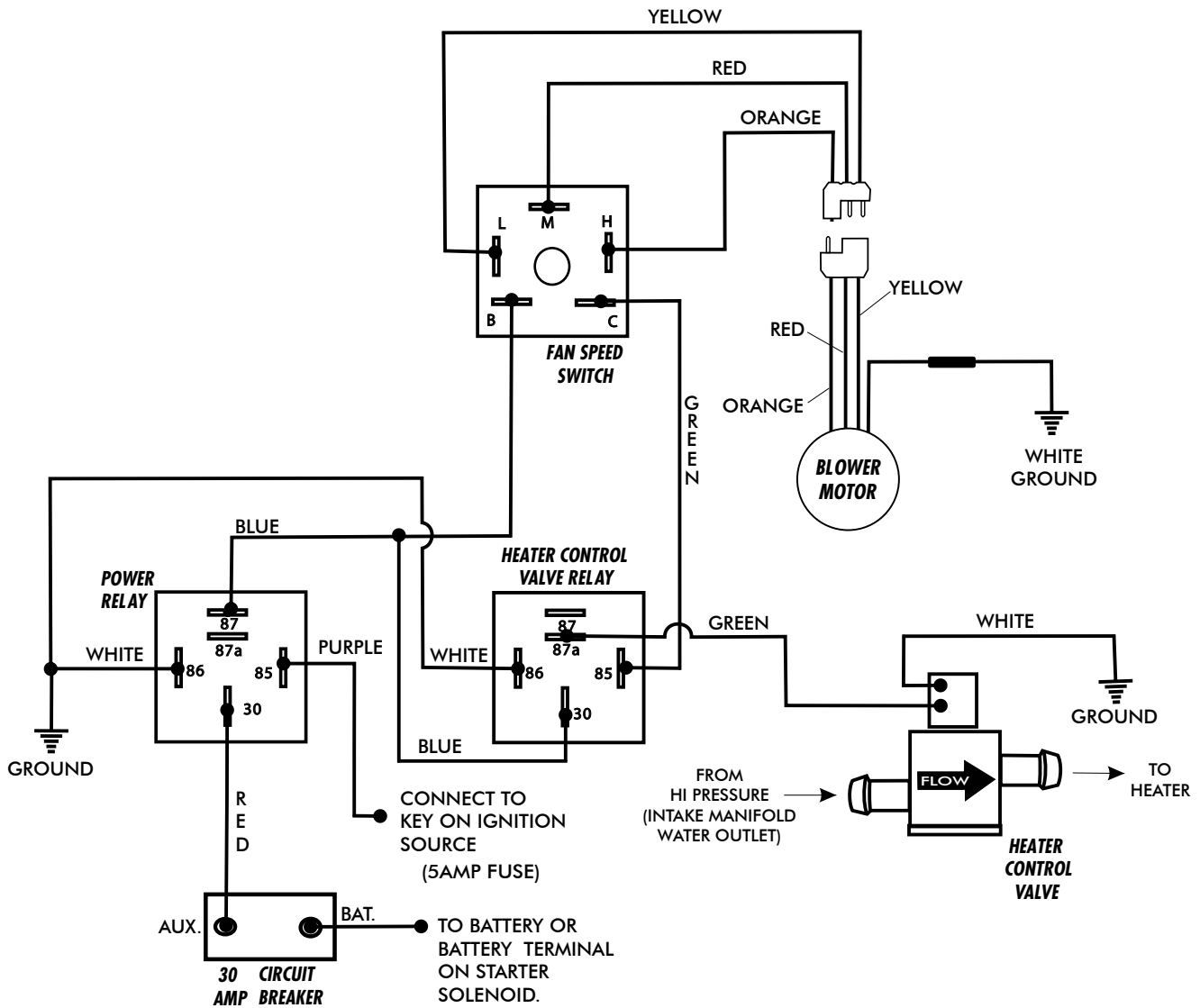
- A. Wiring harness modification is required to install this valve. Follow the wiring harness modification instructions on Pages 7 and 8 of this insert.
- B. Flow direction follows molded arrow on valve.
- C. Connection between heater control valve and wiring adapter may be located in engine bay or passenger compartment. Be sure to secure ground ring terminal to chassis ground.





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Wiring Diagram Universal Unit - Heater with Defrost (Electric Heater Control Valve)



3-SPEED FAN MOTOR BLOWER CONTROL SWITCH

TO OPERATE FLOOR HEAT MODE PUSH KNOB IN, AND ROTATE KNOB TO DESIRED FAN SPEED
TO OPERATE DEFROST MODE PULL KNOB OUT, AND ROTATE KNOB FOR DESIRED FAN SPEED

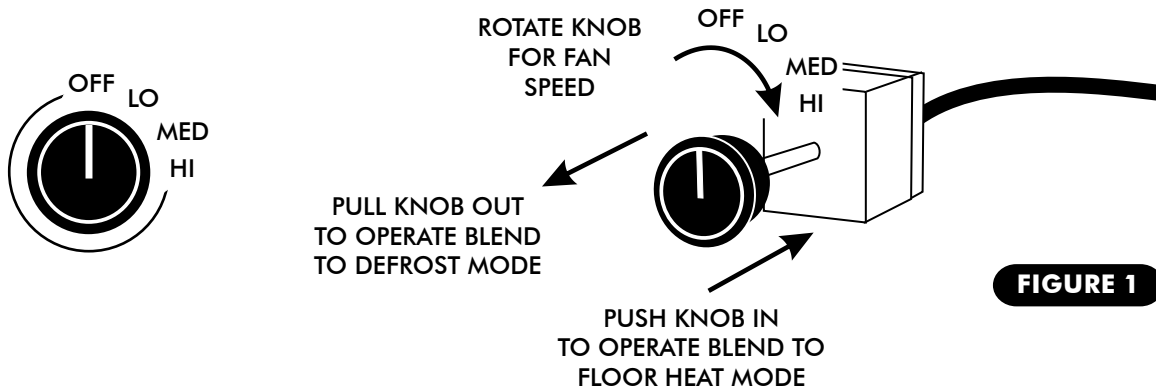


FIGURE 1



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Wiring Harness Modification

IMPORTANT: Disconnect the wiring harness red lead from the positive battery terminal.

1. Disconnect the heater control valve relay from the wiring harness (See Photo 1, below). **NOTE: The heater control valve relay is connected to a blue wire, white wire and (2) green wires. The power relay is connected to a blue, red, purple and white wire. Do NOT disconnect the power relay.**
2. Using a small flat-blade screwdriver, remove the blue wire from the heater control valve connector by gently depressing the retaining tab on the metal terminal and withdrawing the wire from the connector (See Photos 2 and 3, below).
3. Using a small flat-blade screwdriver (See Photo 4, below), gently return the retaining tab on the blue wire's metal terminal to the raised position, as shown in Photo 5, below.
4. Insert the blue wire into Position "1" of the new (white) heater control valve connector. Wire positions are marked on the connector shell (See Photo 6, below). Push the terminal inward until it locks into place (See Photo 7, below).

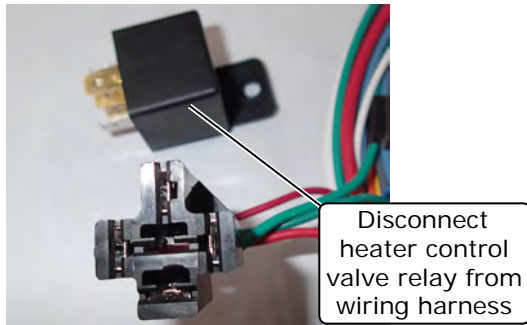


Photo 1

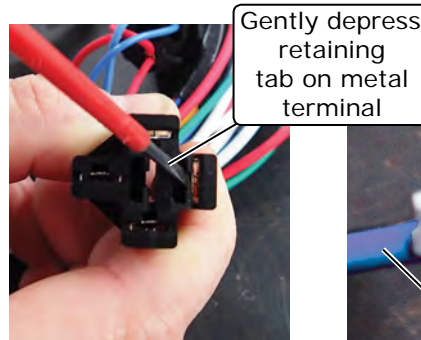


Photo 2

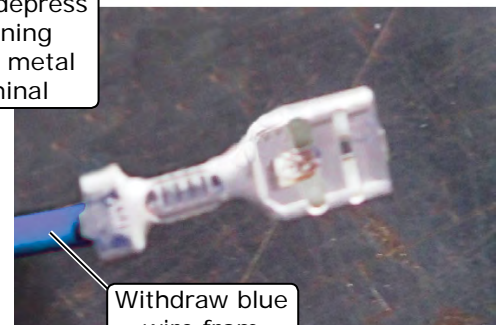


Photo 3

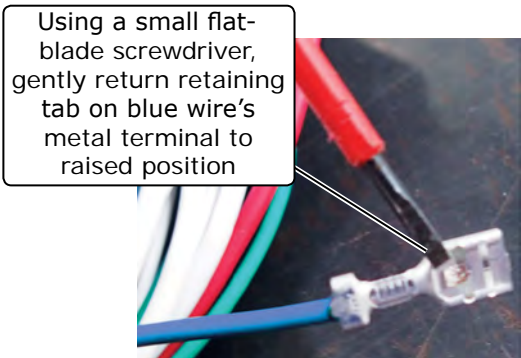


Photo 4

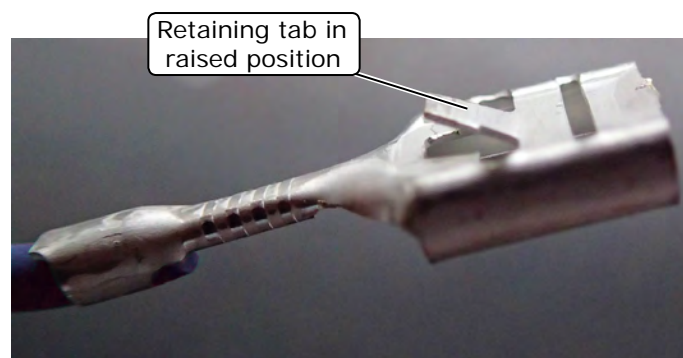


Photo 5

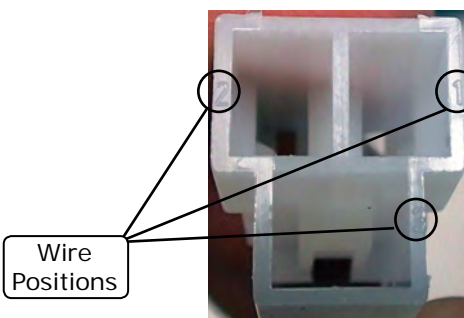


Photo 6

Insert blue wire into Position "1" of new (white) heater control valve connector

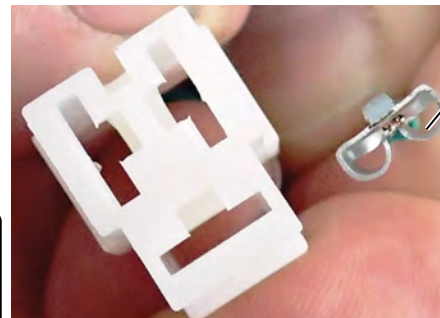


Photo 7



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Wiring Harness Modification (Cont.)

5. Disconnect the green wire to the heater control valve (See Photo 8, below). Cut the terminal off and crimp the uninsulated female terminal provided in the kit (See Photo 9, below).
6. Take the white jumper wire and cut the insulated spade terminal off the lead. Crimp the female uninsulated terminal to the white jumper where the insulated spade terminal was removed. Push the uninsulated terminal onto the relay plug where the blue lead was removed. Secure the ring terminal to the chassis ground, and plug the relay back into place.
7. Insert the green wire into position "3" of the new (white) heater control valve connector (See Photo 10, below). Push the terminal inward until it locks into place.
8. Connect the heater control valve wiring adapter to the new heater control valve connector to the wiring harness (See Photo 11, below).
9. Secure the ground ring terminal to chassis ground (See Photo 12, below).
10. Reconnect the wiring harness red lead to the positive terminal of the battery.

Disconnect green wire to HCV



Photo 8

Cut terminal off and crimp uninsulated female terminal provided in kit



Photo 9

Connect heater control valve wiring adapter to new heater control valve connector to wiring harness

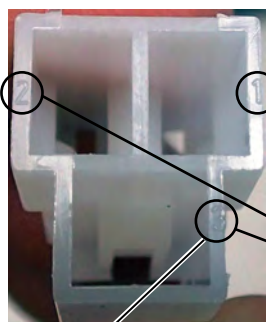


Photo 10

Wire Positions

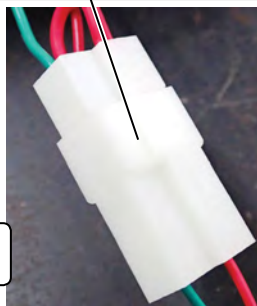
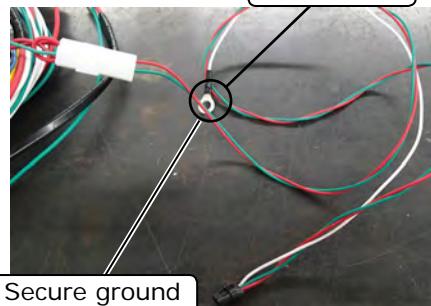


Photo 11

Ground Ring Terminal



Secure ground ring terminal to chassis ground

Photo 12

Insert green wire into position "3" of new white heater control valve connector

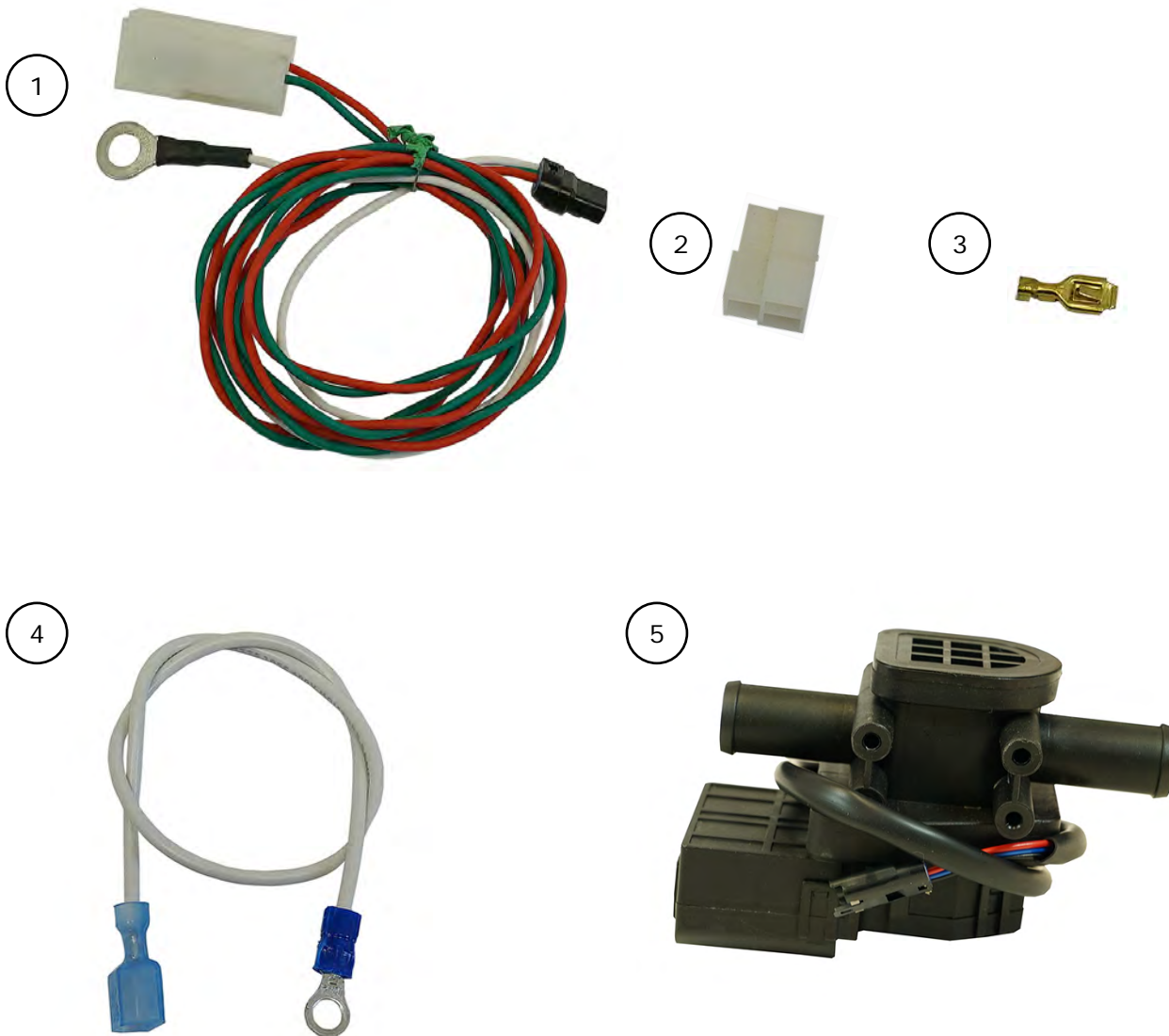


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Checked By: _____
 Packed By: _____
 Date: _____



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