



Volvo Chassis - Troubleshooting And Repair Information For The Indel B Refrigerator, L4 Model - VAH630, VNL630, VNL670, VNR640



> Internal Content

Identification

There are three models of refrigerator installed in Volvo vehicles. Refer to the pictures below to determine the correct model for troubleshooting and repair. If there is question of which model is currently installed, consult Parts Specifications for the correct information.

Model	L4	L4E	L5
Solution	K19097642 (This Solution)	K35508765	K54095315
Image (Click for full size)			
Notes	Thermostat knob located on back wall inside freezer	Digital thermostat on right wall inside door	Thermostat knob on right side of freezer door
Commonly Installed In	VAH630, VNL630, VNL670, VNR640	VNL740, VNL760	VNL730, VNL780, VNL860, VT830, VT880

Troubleshooting

I. Refrigerator does not function - No cooling. Compressor motor ONLY not running

Live UI re that the thermostat is turned ON.

2. If the switch is OFF: Turn the switch ON. Wait 60 seconds and check

a. **If the switch is OFF:** Turn the switch ON, wait 60 seconds and check function again.

b. **If the switch is ON:** Go to Step 2.

2. Check power supply.

a. Check the fuse for the circuit that powers the refrigerator.

i. **If the fuse is blown:** Replace the fuse and recheck function.

ii. **If the fuse is intact:** Continue to Step 2b below.

b. Check that the refrigerator power cable is properly connected with the battery cable or power source. Ensure all connections are tight and free of corrosion.

i. **If incorrectly connected, harness damaged, dirty/corroded connections:** Repair, clean and tighten as necessary. Recheck function.

ii. **If correctly installed and no fault in harness:** Continue to Step 2c.

c. Check battery voltage and ensure batteries pass load test.

i. **If low voltage found or batteries fail load test:** Replace as necessary.

ii. **If voltage is 12v+ and load tests pass:** Go to Step 3.

3. Remove the refrigerator from its cabinet.

4. Ensure that all connections to the control unit (ECU) are not damaged, tight, and free of corrosion.

a. **If damaged, corroded or loose connections are found:** Repair and clean as necessary and recheck function.

b. **If no fault found in the ECU connections:** Go to Step 5.

5. Remove the connectors from ECU connections C and T. Make a jumper wire and install it between the two. Check function.

a. **If the compressor and blower motor are running:** Replace the thermostat. Recheck function.

b. **If the compressor and blower motor are not running:** Replace the ECU. Recheck function.

 **Live UI** Steps 1-5 do not restore refrigerator function, Indel B will need to be contacted for further assistance.

II. Refrigerator does not function - No cooling. Compressor motor AND Fan not running

1. Ensure that the thermostat is turned ON.
 - a. **If the switch is OFF:** Turn the switch ON. Wait 60 seconds and check function again.
 - b. **If the switch is ON:** Go to Step 2.
2. Check power supply.
 - a. Check the fuse for the circuit that powers the refrigerator.
 - i. **If the fuse is blown:** Replace the fuse and recheck function.
 - ii. **If the fuse is intact:** Continue to Step 2b below.
 - b. Check that the refrigerator power cable is properly connected with the battery cable or power source. Ensure all connections are tight and free of corrosion.
 - i. **If incorrectly connected, harness damaged, dirty/corroded connections:** Repair, clean and tighten as necessary. Recheck function.
 - ii. **If correctly installed and no fault in harness:** Continue to Step 2c.
 - c. Check battery voltage and ensure batteries pass load test.
 - i. **If low voltage found or batteries fail load test:** Replace as necessary.
 - ii. **If voltage is 12v+ and load tests pass:** Go to Step 3.
3. Remove the refrigerator from its cabinet
4. Ensure that power connections to the control unit (ECU) are not damaged, tight, and free of corrosion.
 - a. **If damaged, corroded or loose connections are found:** Repair and clean as necessary and recheck function.
 - h. **If no fault found in the ECU connections:** Replace the ECU.

5. If Steps 1-4 do not restore refrigerator function, Indel B will need to be

contacted for further assistance.

III. Refrigerator is not cooling enough. Compressor motor IS running.

1. Set the thermostat to Maximum cooling. Wait 30 minutes with the door CLOSED. Check the temperature of the Evaporator.
 - a. **If the temperature is below 0° C (32° F):** The thermostat should be adjusted to a higher setting than it previously was to provide more cooling.
 - b. **If the temperature is above 0° C (32° F):** Go to Step 2.
2. Remove the refrigerator from its cabinet.
3. Remove the connectors from ECU connections C and T. Make a jumper wire and install it between the two. Check function.
 - a. **If the blower motor is running:** Replace the thermostat. Wait 30 minutes with the door CLOSED.
 - i. If the temperature remains above 0° C, Indel B will need to be contacted for further assistance.
 - b. **If the blower motor is not running:** Contact Indel B for further assistance.

Repair

I. Freezer Door Removal

1. Open the door about halfway.



 Live UI

2. Flex the door outward until one hinge tab is able to disengage from

the freezer housing.



II. Thermostat Replacement

1. Remove the freezer door.
2. Remove the adjustment knob from the thermostat by pulling it straight out.



3. Remove the nut securing the thermostat to the thermostat housing.



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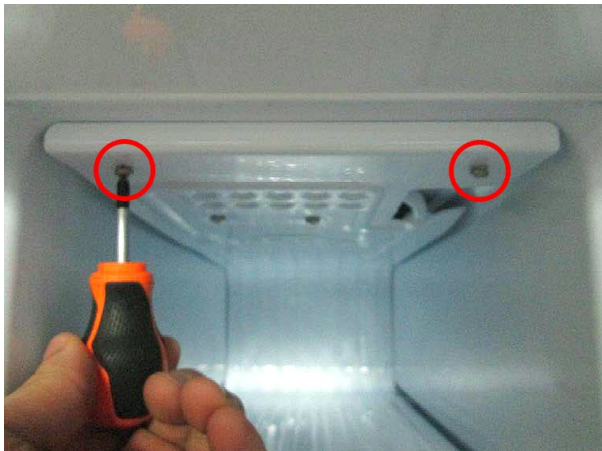
4. Remove the mounting screws for the thermostat cover. Remove the cover.



5. Disconnect the wiring harness connector from the thermostat.



6. Remove the mounting screws from the top of the inside of the freezer.



8. Lower the freezer enough that the top of the freezer is accessible.

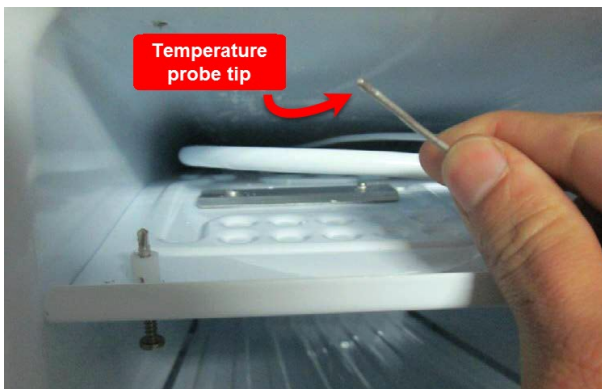
9. Note the temperature probe wire routing prior to removing.

10. Remove the two screws for the temperature probe holddown

10. Remove the two screws for the temperature probe hold-down bracket.



11. Remove the temperature probe, then remove the thermostat.



12. Route the probe wiring from the new thermostat the same way as the previous wiring was run.

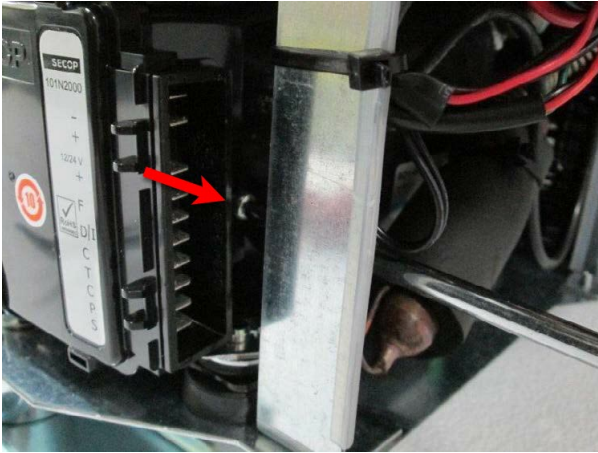
13. Remaining installation is the reverse of removal procedure.

III. Control Unit (ECU) Replacement

1. Make note of all of the connector locations on the ECU.



2. Remove all of the terminals from the ECU.
3. Remove the ECU mounting screw.

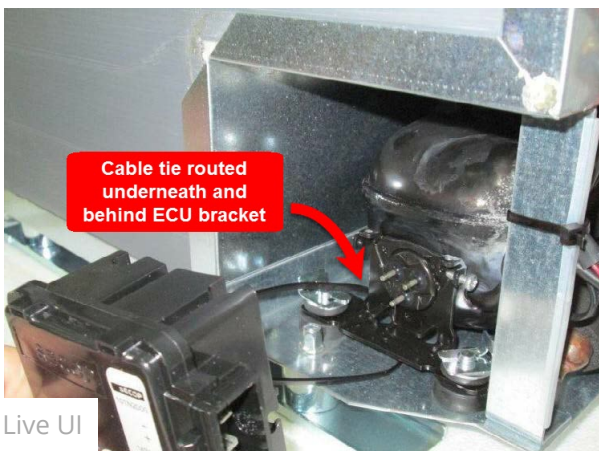


4. Remove the cable tie securing the ECU to the mounting bracket.

a. **TIP:** It is much easier to route a new cable tie under and around the back of the mounting bracket prior to installing the new ECU.



5. Remove the ECU.



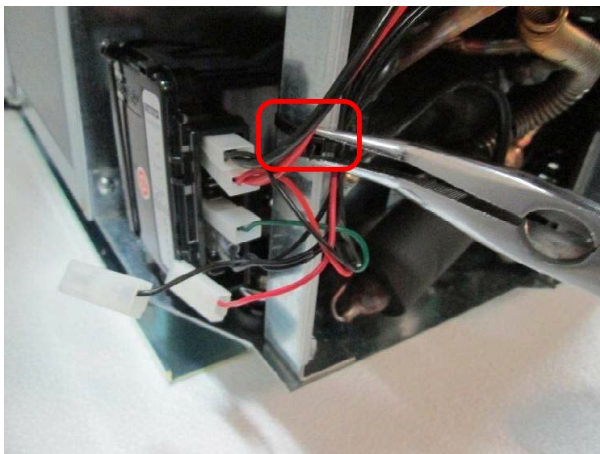
6. Installation is the reverse of removal.

IV. Fan Replacement

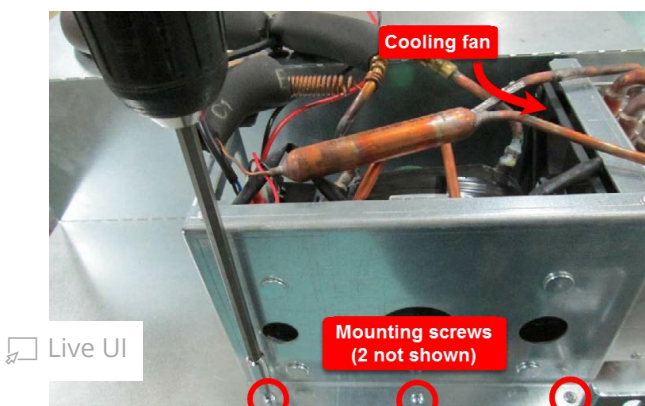
1. Remove the connectors from ECU terminals + and F.



2. Remove the cable tie securing the harness to the refrigerator frame.

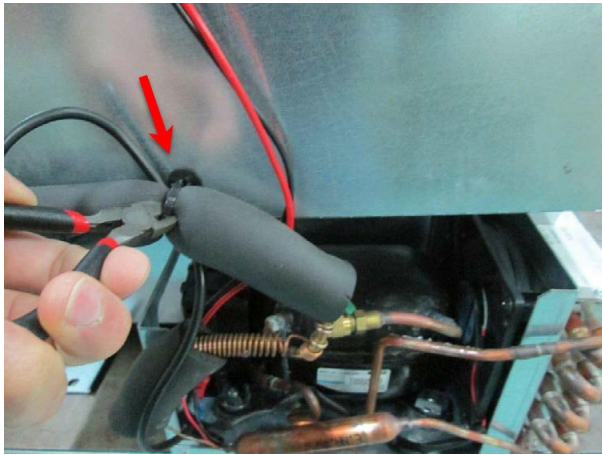


3. Remove the cooling unit assembly from the refrigerator. There are five (5) mounting screws. The assembly only needs to be moved enough that the fan is accessible. **No lines or wires should require removal from the Cooling Unit.**





4. Remove the cable tie securing the insulation around the harness.



5. Note the routing of the fan wiring prior to removal.

6. Remove the fan mounting screws. There are four (4) screws, one at each corner of the fan.



7. Remove the fan.



8. Install the new fan. Ensure the wiring is routed as it was previously.
9. Remaining installation is the reverse of removal.

V. Spare parts list

A list of spare parts for the refrigerator can be found in the PDF below:

Spare parts list and diagram



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