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2001 Chevrolet Tahoe - 2WD | Sierra, Silverado, Suburban, Tahoe, Yukon (VIN C/K) Service Manual | Document ID: 653753

## Too Hot in Vehicle - Auxiliary (w/o Sunroof)

## **Test Description**

The numbers below refer to the step numbers on the diagnostic table.

6. The specified values are from the A/C System Performance Test.

Step	Action	Values	Yes	No
Schematic Reference: HVAC Schematics  DEFINITION: Auxiliary air temperature can not be adjusted from one or both auxiliary controls or auxiliary cooling is insufficient.				
1	Did you review the HVAC operation and perform the necessary inspections?		Go to Step 2	Go to <u>Symptoms -</u> <u>HVAC Systems -</u> <u>Manual</u>
2	Important:: The auxiliary HVAC control assembly cannot request A/C compressor operation. An A/C request must be generated by the HVAC control module to provide cooled airflow through the auxiliary system.			
	Does the HVAC control module operate and provide sufficient cooling?		Go to Step 3	Go to <u>Too Hot in</u> <u>Vehicle</u>
3	<ol> <li>Turn ON the ignition, with the engine OFF.</li> <li>Select REAR CNTL on the front auxiliary HVAC control assembly.</li> <li>Place the A/C auxiliary blower motor switch in each speed position.</li> </ol>		Go to	Go to <u>Auxiliary</u> Blower Motor
	Does the auxiliary blower motor operate at all?		Step 4	<u>Inoperative</u>
4	Does the auxiliary blower motor operate correctly for each speed position?		Go to Step 5	Go to <u>Auxiliary</u> <u>Blower Motor</u> <u>Malfunction</u>
5	Does the Too Hot In Vehicle concern occur when A/C cooling is desired?		Go to Step 6	Go to Step 7
<u>6</u>	Perform the refrigerant system performance test. Refer to Air Conditioning (A/C) System  Performance Test  Did you find and correct the condition?		Go to Step 30	Go to <u>Step 7</u>
7	<ol> <li>Select REAR CNTL on the front auxiliary HVAC control assembly.</li> <li>Observe the auxiliary air temperature actuator drive shaft.</li> <li>Adjust the rear auxiliary air temperature switch.</li> </ol>	 on. All righ	ts reserved.	

	Does the auxiliary air temperature actuator drive shaft rotate at all?		Go to Step 8	Go to <u>Step 10</u>
00	Select OFF on the front auxiliary HVAC control assembly.     Adjust the front auxiliary air temperature switch.  Does the auxiliary air temperature actuator		Go to	
	drive shaft rotate at all?  Inspect the auxiliary air temperature door and		Step 9	Go to Step 13
	the auxiliary air temperature actuator for the following conditions:			
	<ul> <li>Misaligned auxiliary air temperature actuator. Refer to <u>Auxiliary Temperature</u> <u>Valve Actuator Replacement</u>.</li> </ul>			
	<ul> <li>Broken or binding linkages or auxiliary air temperature door.</li> </ul>			
9	Obstruction that prevents the auxiliary air temperature door from operating within it's full range of motion.			
	<ul> <li>Missing seals to the auxiliary air temperature actuator door</li> </ul>			
	Misaligned seals to the auxiliary air temperature actuator door		Co to	Go to <u>Testing for</u> <u>Intermittent</u> <u>Conditions and Poor</u>
	Did you find and correct the condition?		Go to Step 30	<u>Connections</u> in Wiring Systems
10	<ol> <li>Select OFF on the front auxiliary HVAC control assembly.</li> <li>Adjust the front auxiliary air temperature switch.</li> </ol>			
	Does the auxiliary air temperature actuator drive shaft rotate at all?		Go to Step 11	Go to <u>Step 16</u>
11	Test the rear auxiliary temperature door control circuit of the rear auxiliary HVAC control assembly for an open, high resistance, a short to ground or short to voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.			
	Did you find and correct the condition?		Go to Step 30	Go to Step 12
	Important:: The rear auxiliary HVAC control assembly connector must be connected to correctly perform test.			
12	<ol> <li>Turn ON the ignition, with the engine OFF.</li> <li>Measure the voltage from the rear auxiliary temperature door control circuit</li> </ol>	0-12 V		

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	of the rear auxiliary HVAC control assembly to a good ground.  3. Adjust the rear auxiliary air temperature switch.			
	Does the voltage change and measure within the specified range?		Go to Step 25	Go to <u>Step 23</u>
13	Test the ignition 3 voltage circuit of the front auxiliary HVAC control assembly for an open or a high resistance. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems.		Go to	
	Did you find and correct the condition?		<u>Step 30</u>	Go to Step 14
14	Test the air temperature door position signal circuit of the front auxiliary HVAC control assembly for an open, high resistance, a short to ground or short to voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		Go to	
	Did you find and correct the condition?		Step 30	Go to Step 15
15	Important:: The front auxiliary HVAC control assembly connector must be connected to correctly perform test.  1. Turn ON the ignition, with the engine OFF.  2. Measure the voltage from the air temperature door position signal circuit of the front auxiliary HVAC control assembly to a good ground.  3. Adjust the front auxiliary air temperature switch.	0-12 V	Conto	
	Does the voltage change and measure within the specified range?		Go to Step 25	Go to Step 24
16	Test the ignition 3 voltage circuit of the auxiliary HVAC processor for an open or a high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		Go to	Go to Stop 17
	Did you find and correct the condition?  Test the ignition 3 voltage circuit of the		Step 30	Go to Step 17
17	auxiliary air temperature actuator for an open or a high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.  Did you find and correct the condition?		Go to Step 30	Go to Ston 10
	Test the ground circuit of the auxiliary air		<u> </u>	Go to Step 18
18	temperature actuator for an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		Go to	

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	Did you find and correct the condition?		Step 30	Go to Step 19
19	Test the auxiliary temperature door control circuit of the auxiliary air temperature actuator for an open, high resistance, a short to ground or short to voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.  Did you find and correct the condition?		Go to Step 30	Go to Step 20
20	Important:: The auxiliary HVAC processor, front and rear auxiliary HVAC control assembly connectors must be connected to correctly perform test.  1. Turn ON the ignition, with the engine OFF.  2. Select REAR CNTL on the front auxiliary HVAC control assembly.  3. Measure the voltage from the auxiliary temperature door control circuit of the auxiliary air temperature actuator to a good ground.  4. Adjust the rear auxiliary air temperature switch.	0-12 V		
	Does the voltage change and measure within the specified range?		Go to Step 21	Go to <u>Step 25</u>
21	Inspect for poor connections at the harness connector of the auxiliary air temperature actuator. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems.  Did you find and correct the condition?		Go to Step 30	Go to <u>Step 22</u>
22	Inspect the auxiliary air temperature actuator, door and any attaching linkage for binding or a condition that prevents drive shaft rotation.  Did you find and correct the condition?		Go to Step 30	Go to Step 26
23	Inspect for poor connections at the harness connector of the rear auxiliary HVAC control assembly. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems.  Did you find and correct the condition?		Go to Step 30	Go to <u>Step 27</u>
24	Inspect for poor connections at the harness connector of the front auxiliary HVAC control assembly. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems.  Did you find and correct the condition?		Go to Step 30	Go to Step 28

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25	Inspect for poor connections at the harness connector of the auxiliary HVAC processor. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems.  Did you find and correct the condition?	 Go to Step 30	Go to <u>Step 29</u>
26	Important:: The recalibration of the auxiliary air temperature actuator is not required.  Replace the auxiliary air temperature actuator. Refer to Air Temperature Actuator Replacement.  Did you complete the replacement?	 Go to Step 30	
27	Important:: The recalibration of the rear auxiliary HVAC control assembly is not required.  Replace the rear auxiliary HVAC control assembly. Refer to Auxiliary Heater and Air Conditioning Control Replacement - Rear.  Did you complete the replacement?	 Go to Step 30	
28	Important:: The recalibration of the front auxiliary HVAC control assembly is not required.  Replace the front auxiliary HVAC control assembly. Refer to Heater and Air Conditioning Control Replacement.  Did you complete the replacement?	 Go to Step 30	
29	Important:: The recalibration of the auxiliary HVAC processor is not required.  Replace the auxiliary HVAC processor. Refer to Auxiliary HVAC Control Processor Replacement.  Did you complete the replacement?	 Go to Step 30	
30	Operate the system in order to verify the repair.  Did you correct the condition?	 System OK	Go to <u>Step 2</u>