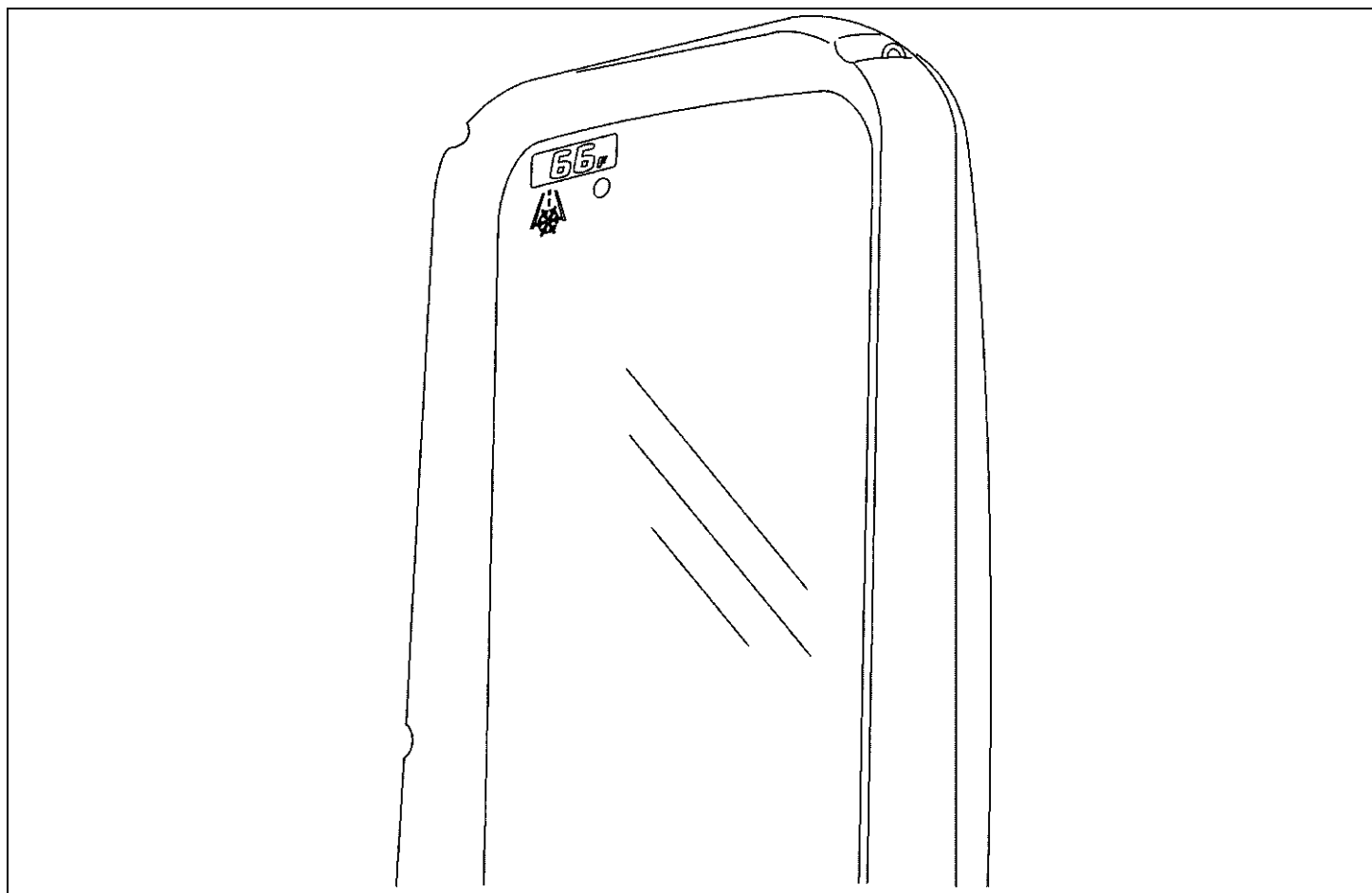


Service Manual

Department	Customer Service
Category	Service Manual
Section	Cab
Title	Mirror Outside Air Temperature Display
Number	KM811015
Date	03/31/04
Model	All
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Mirror Outside Air Temperature Display



Cab: Mirror Outside Air Temperature Display

Some T600, T800, W900 and T2000 models with aerodynamic style mirrors may include an Outside Air Temperature Display in the driver's outside rear view mirror. The following information provides an overview of the OAT features, instructions for changing the display settings and procedures for troubleshooting the unit.

Overview

If equipped, The Outside Air Temperature (OAT) Display will display the ambient temperature in the upper left corner of the mirror.



NOTE: The display is capable of recognizing and displaying a temperature range of -40° to 158° F (-40° to 70° C).

With the ignition key ON, the temperature can be displayed in either Fahrenheit or Celsius, or if desired, the display can be turned off.

The mirror display will also alert the driver when the outside temperature approaches freezing (32° F or 0° C) by displaying a snowflake symbol in the upper left corner of the mirror (see below). The actual snowflake icon trip points are: On at 36° F (2 C), Off at 38° F (3 C). The symbol will automatically turn off after approximately 10 minutes, or if the outside temperature rises above a predetermined setpoint. A light sensor in the mirror automatically adjusts display brightness as outside lighting conditions change.



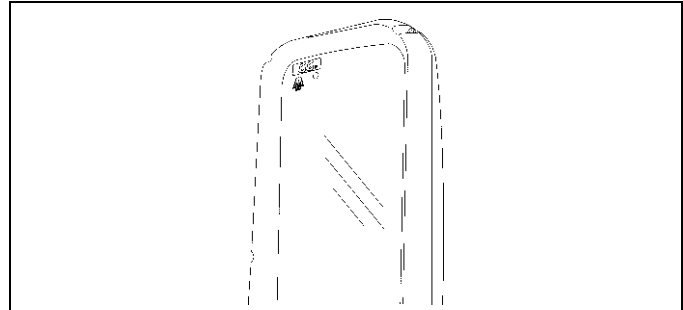
NOTE: The OAT uses a sensor (located at the bottom of the mirror assembly) to measure outside air temperature only. A vehicle equipped with a driver's side OAT within the mirror is not capable of displaying road surface temperatures. The snow flake symbol is only an indicator of a potential freezing condition.

To change the OAT Display settings, follow the sequential steps listed below:

Display Setting Change Sequence

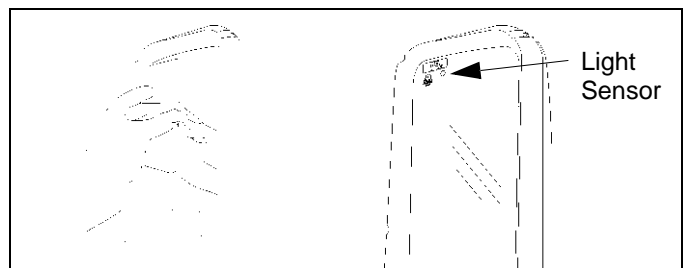


NOTE: To start the Display Setting Change Sequence, the mirror must be in a daylight condition.



- An artificial light source (flashlight) may be used to simulate daylight shining on the display area. The light must be continuously shined directly at the display and the light sensor during this sequence.
- To turn on the OAT Display, turn ignition key to the On position.
- The Display Setting Change Sequence must be completed during the first minute after power is applied to the mirror.

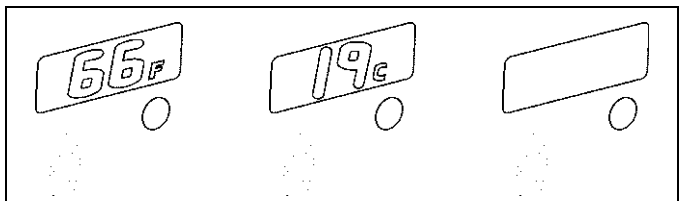
1. Wait five seconds for mirror to stabilize.
2. Cover the light sensor with a dark object until the display dims by one level for a minimum of five seconds. See illustration that follows.
3. Uncover the sensor so that the sensor is in the daylight condition for a minimum of five seconds.
4. Repeat the cover and uncover sequence two additional times.



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5. After the third cover and uncover sequence, the display setting will change. The following is the order of settings for the display:

- "F" (Fahrenheit)
- "C" (Celsius)
- Off



6. Each cover and uncover sequence after the third will toggle the display to the next setting in sequence.

7. If the display is in the "Off" mode, the light sensor is still functional and the display mode can be changed.

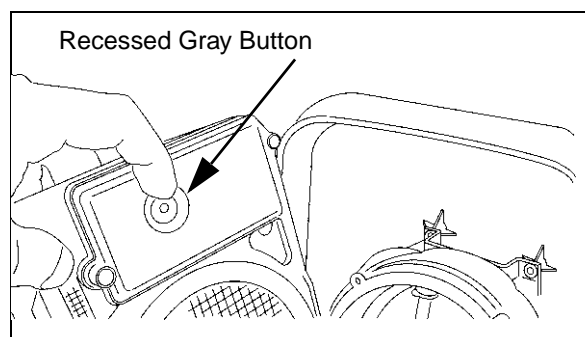


NOTE: The sequence can occur only during the first minute after power is applied to the mirror.

Optional Switching Procedure

This procedure may be accomplished at any time during the operation of the OAT.

1. Remove the Flat Glass Assembly from the mirror head.
2. On the back of the Flat Glass Assembly, locate a small, recessed gray button. See illustration that follows.



Press this button to change the setting. Each press of the button will toggle the setting.

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OAT Display Troubleshooting

Symptom	Troubleshooting Procedure
Some LED Segments Are Missing	Replace Display Module
Snowflake Symbol Does Not Illuminate When Ambient Temperature Is Near Freezing	<p><i>NOTE: Before performing the procedure below, the ambient temperature must be at least 35° F, or the mirror temperature sensor must be cooled enough to simulate a near freezing condition.</i></p> <ol style="list-style-type: none">1. Use a calibrated digital thermometer to verify ambient temperature near mirror temperature sensor (located at bottom of mirror bezel) is 35° F (2° C) or less.<ul style="list-style-type: none">• If ambient temperature is above 35° F (2° C), cool mirror sensor to at least 35° F (2° C). See Figure 15-1 on page 6.• If mirror sensor is 35° F (2° C) or less (verified with digital thermometer) and snowflake symbol does NOT illuminate - Replace Display Module. <p><i>NOTE: The snowflake symbol will automatically turn off after 10 minutes, or if the outside temperature rises above a predetermined setpoint.</i></p>
Temperature Reading Is Inaccurate	<ol style="list-style-type: none">1. Place a digital thermometer near mirror temperature sensor (located at bottom of mirror bezel). Record temperature reading. See Figure 15-1 on page 6.<ul style="list-style-type: none">• If mirror temperature display is more than $\pm 2^{\circ}$ F ($\pm 16^{\circ}$ C) of digital thermometer reading - Replace Display Module.

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Symptom	Troubleshooting Procedure
OAT Display Is Inoperative	<p><i>NOTE: The OAT display module receives power from the Warning Lamps circuit.</i></p> <ol style="list-style-type: none"> Check the "WARN LPS" fuse to verify if it is good. <ul style="list-style-type: none"> If fuse is "blown" - Troubleshoot and repair the source of the problem, before replacing fuse. Re-check OAT display operation. If fuse is okay, proceed to step 2. With ignition key ON, check the P18WL wire that connects to the OAT display module. See Figure 15-2 on page 6. <ul style="list-style-type: none"> If there is system voltage at P18WL wire - Check to see if the display is in the OFF mode by turning the ignition key to the OFF position, then to the ON position again. Even if the display is set to the OFF mode, the display should illuminate all segments, including the snowflake symbol, for 2 seconds after power up. If the segments only illuminate for 2 seconds, the display is set to the OFF mode. To turn the display mode ON, see "Display Setting Change Sequence" on page 2. If the display did not illuminate all segments for 2 seconds after power up - Replace Display Module. If fuse is okay, but there is no system voltage at P18WL wire, - Check for an open circuit in P18WL wire. Repair wiring. Re-check OAT display operation. <p><i>NOTE: On T600, T800, and W900 models, the P18WL wire is part of the instrument panel harness. On T2000's, the P18WL wire is part of the LH door panel harness. See Figure 15-2 on page 6.</i></p>
OAT Display Temperature Shows " - - "	<ol style="list-style-type: none"> If the ambient temperature is less than -40° F (-40° C) or greater than 158° F (70° C), the information is outside the normal range the module can display. The display will return to normal operation as soon as the temperature value is within the normal range. No repairs are necessary. If the ambient temperature is within the -40° F (-40° C) to 158°F (70° C) range, the sensor or sensor wiring is damaged - Replace Display Module.

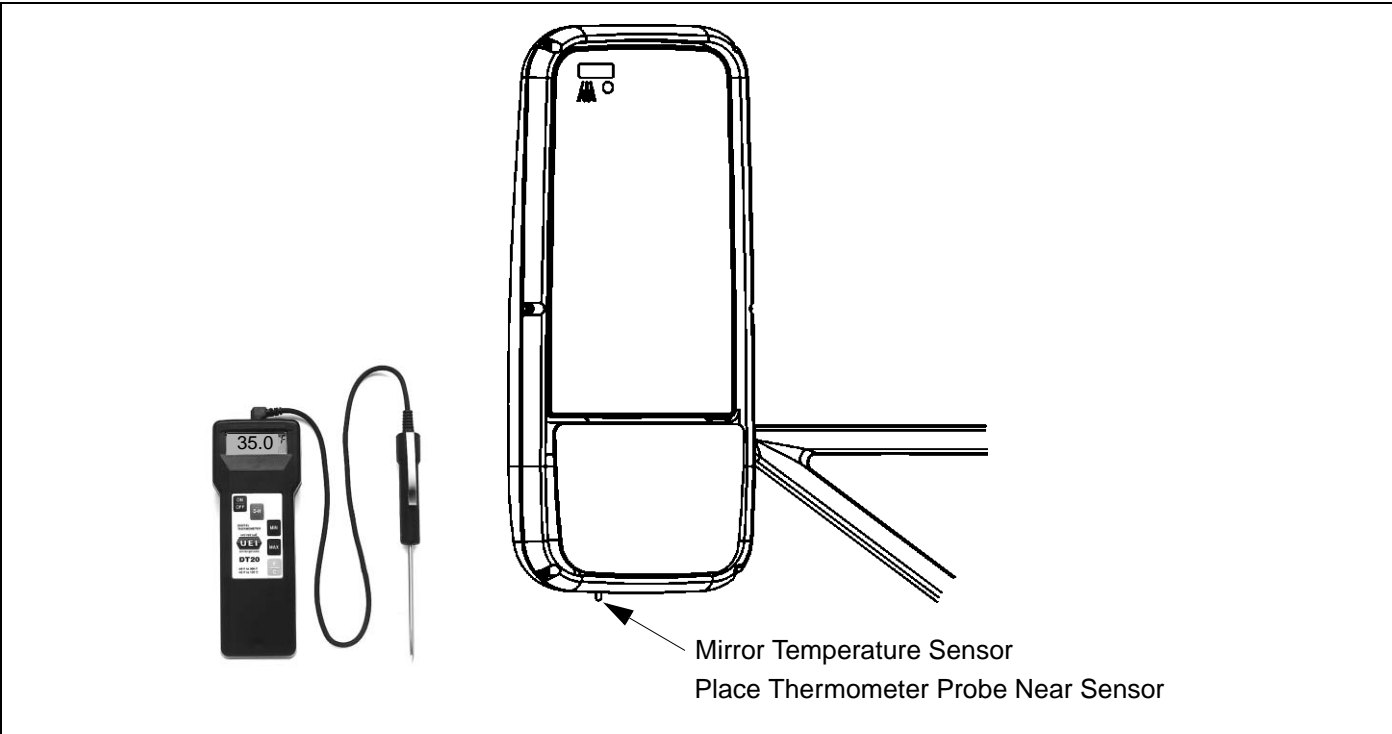


Figure 15-1

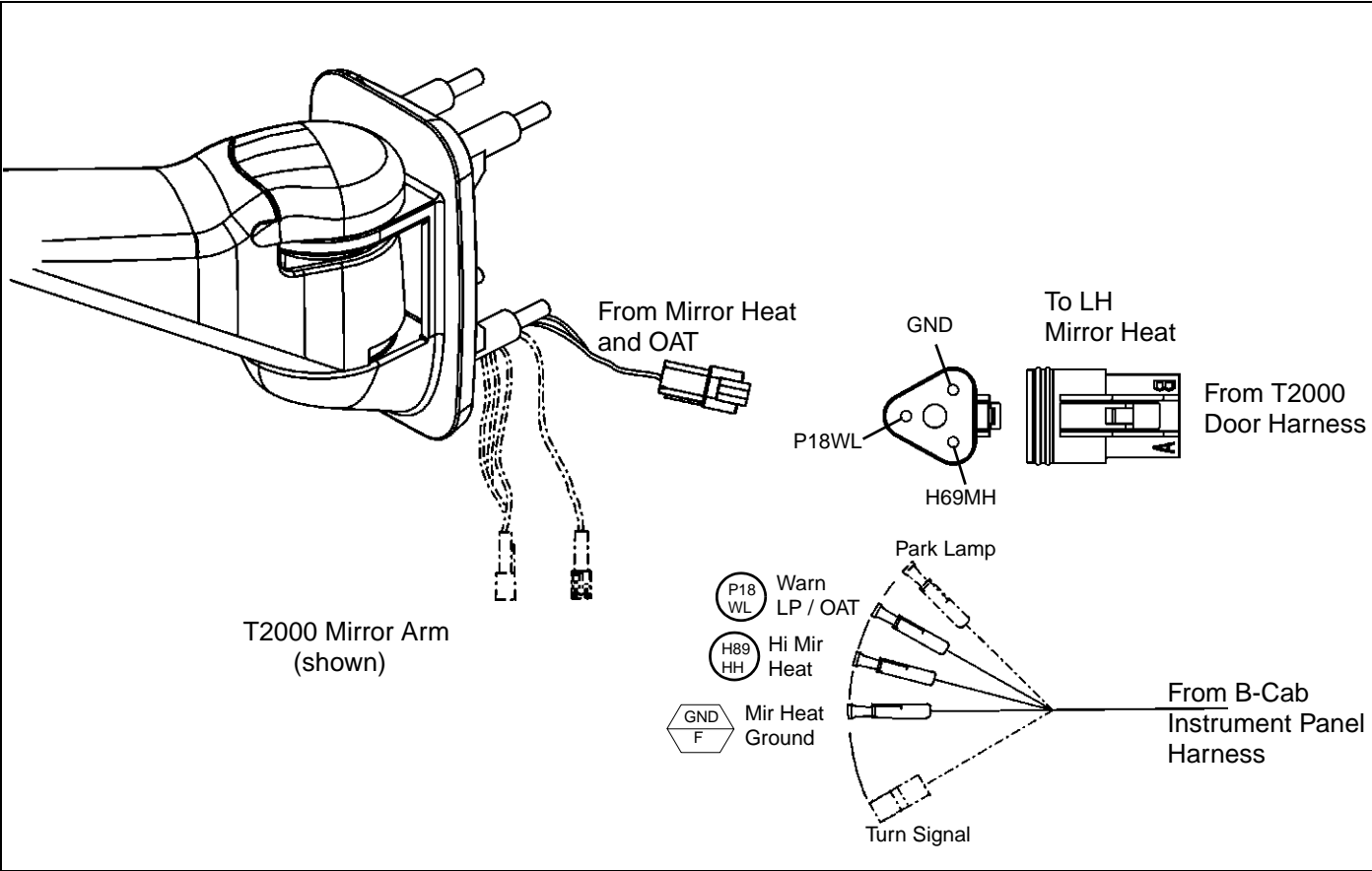


Figure 15-2