

**ATTENTION:**GENERAL MANAGER PARTS MANAGER CLAIMS PERSONNEL SERVICE MANAGER 

IMPORTANT - All Service Personnel Should Read and Initial




**APPLICABILITY:** 2000~2003 All Models**NUMBER:** 15-105-01**DATE:** 1/04/02

**SUBJECT:** Auto Dimming Electrochromic  
Compass Mirror Trouble Shooting  
Guide

**DESCRIPTION**

The purpose of this Trouble Shooting Guide is to assist the technician in diagnosis of an Auto Dimming Electrochromic Compass Mirror complaint. The information below will guide you through the diagnosis of the mirror and direct you as to the appropriate correction.

**MIRROR TROUBLE SHOOTING GUIDE**

CONDITION	POSSIBLE CAUSE	ACTION
Mirror face does not darken.	<ul style="list-style-type: none"> <li>• EC function is not on.</li> <li>• Mirror is not receiving power.</li> <li>• Light sensor is blocked.</li> </ul>	<b>Use pinpoint test A.</b>
Mirror face is always dark.	<ul style="list-style-type: none"> <li>• Light sensor is blocked.</li> </ul>	<b>Use pinpoint test B.</b>
Compass display is inaccurate.	<ul style="list-style-type: none"> <li>• Compass pod is not mounted properly.</li> <li>• External magnetic influence is present.</li> <li>• Zone setting is incorrect.</li> <li>• Compass is not calibrated.</li> </ul>	<b>Use pinpoint test C.</b>
There is no compass display.	<ul style="list-style-type: none"> <li>• Compass display is switched off.</li> <li>• Mirror is not receiving power.</li> <li>• Compass pod is not connected.</li> </ul>	<b>Use pinpoint test D.</b>
Some segments of display do not work.	<ul style="list-style-type: none"> <li>• Damaged mirror head.</li> </ul>	<b>Use pinpoint test E.</b>
Display does not dim at night.	<ul style="list-style-type: none"> <li>• Damaged mirror head.</li> </ul>	<b>Use pinpoint test F.</b>
Display is always dim.	<ul style="list-style-type: none"> <li>• Light sensor opening blocked.</li> <li>• Damaged mirror head.</li> </ul>	<b>Use pinpoint test G.</b>



**CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.**

Subaru Service Bulletins are intended for use by professional technicians ONLY. They are written to inform those technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.

**PINPOINT TEST A: MIRROR FACE DOES NOT DARKEN**

*NOTE: Mirror will only darken when forward facing (toward windshield) light sensor reads low light (night conditions) and rear facing (toward driver) light sensor is exposed to light source such as head lights through rear window.*

TEST STEP	RESULT	ACTION
<b>A1:</b> Is green LED on?	YES NO	<b>Go to A2.</b> Push left button. Verify green light is ON. <b>Go to A2.</b> If NO green light, <b>Go to A3.</b>
<b>A2:</b> With the glass side of the mirror in lighted environment, cover round opening in back of mirror. Verify that rear facing light sensor to right of display is not blocked from light source .  <i>Note: At certain angles, it may be possible that light shining toward the rear of the vehicle and into the mirror is temporarily blocked by the center headrest. Under no circumstances should that safety feature be removed.</i>  Does mirror face dim?	YES  NO	Test finished. Mirror functional.  <b>Go to A3.</b>
<b>A3:</b> Remove 7-pin connector from back of mirror. Turn ignition to ON position. Measure voltage across pins 1 & 2 of harness connector with positive lead on pin 1. Is voltage between 9V and 16V?	YES NO	<b>Replace mirror head.</b>  <b>Go to A4.</b>
<b>A4:</b> Verify the correct power harness connection to vehicle. Check wiring to conector (back of mirror): 1) Pin 1 to Ignition controlled 12V. 2) Pin 2 to Ground. 3) Pin 3 to 12V when car in Reverse.  Is power harness installed correctly?	YES NO	Replace mirror head.  Reinstall harness following instructions. <b>Go to A1.</b>

**PINPOINT TEST B: MIRROR FACE IS ALWAYS DARK**

TEST STEP	RESULT	ACTION
<b>B1:</b> Is anything blocking the forward facing, (toward windshield) sensor opening? <i>(Mirror should be evaluated in daylight conditions.)</i>	YES NO	Remove obstruction. Verify that mirror changes to high reflectance (mirror clears).  Replace mirror head.

**PINPOINT TEST C: COMPASS DISPLAY IS INACCURATE**

TEST	RESULT	ACTION
<b>C1:</b> Is pod snapped onto mount?	YES	<b>Go to C2.</b>
	NO	Snap pod on. <b>Go to C2.</b>
<b>C2:</b> Is external magnetic influence (roof antenna, etc.) close to mirror?	YES	Move external magnet to location further from mirror.
	NO	<b>Go to C3.</b>
<b>C3:</b> Is geographical zone set correctly? Procedure to check zone setting: 1) Refer to Compass Calibration Zone Map (Fig.1) to find correct compass zone setting for your geographical location. 2) To check the zone setting, push and hold right button until "ZONE" appears in the display.	YES	<b>Go to C4.</b> Set zone Procedure: 1) To check the zone setting, push and hold right button until "Zone" appears in the display. 2) Press button repeatedly until desired compass zone number is reached. The display will change back to the compass direction after 3 seconds right button is not activated.
	NO	Set zone. <b>Go to C4.</b>

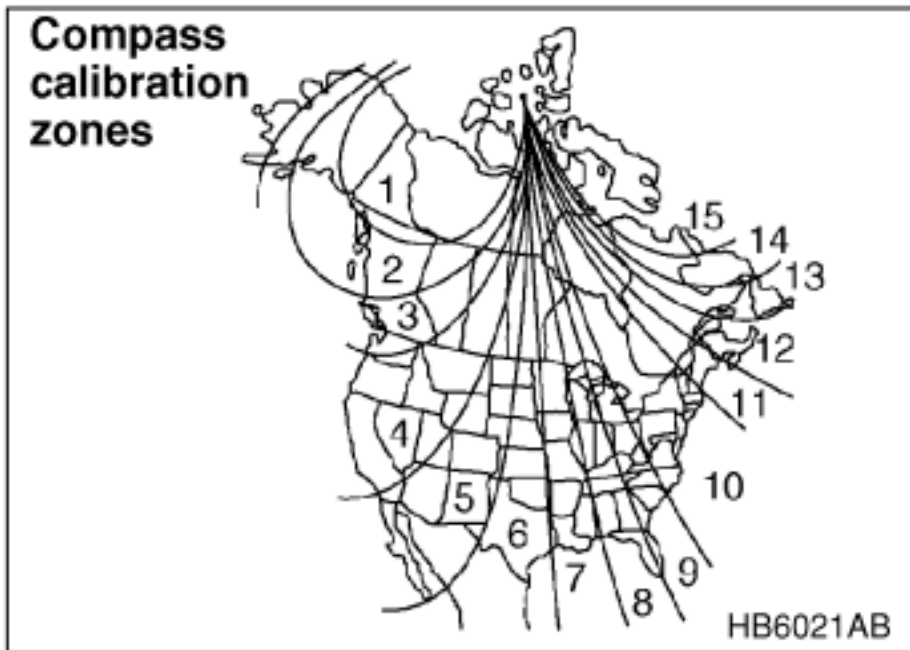


Figure 1

<b>C4:</b> Has compass been calibrated?	YES	Replace mirror head.
	NO	<p>Mirror Calibration Procedure:</p> <ol style="list-style-type: none"> <li>1) For optimum calibration, switch off all non-essential electrical accessories (rear window defrost, heater/air conditioning, map lamps, wipers, etc.) and ensure all doors are shut.</li> <li>2) Drive to an open, level area away from large metallic objects or structures.</li> <li>3) Hold the left button for approximately 3 seconds until "CAL" text appears in the display. Release the left button to enter the calibration mode.</li> <li>4) Drive slowly in a circle until the "CAL" text disappears in the display (about two or three circles). The compass is now calibrated.</li> <li>5) <b>Go to C5</b></li> </ol>
<b>C5:</b> Is compass display accurate?	YES	Test Complete, compass is functional. Replace mirror head.
	NO	Refer to Figure 1 below.

**PINPOINT TEST D: THERE IS NO COMPASS DISPLAY**

TEST	RESULT	ACTION
<b>D1:</b> Press right most button. Does display turn on?	YES	Test finished. Mirror is functional.
	NO	<b>Go to D2.</b>
<b>D2:</b> Test per A3. Is voltage between 9V and 16V?	YES	<b>Go to D3.</b>
	NO	<b>Test per A4 then go to D1.</b>
<b>D3:</b> Is the harness from the mirror head connected to the pod?	YES	Replace mirror head.
	NO	Plug in compass connector and verify that display turns on.

**PINPOINT TEST E: SOME SEGMENTS OF DISPLAY DO NOT WORK**

TEST	RESULT	ACTION
<b>E1:</b> Turn ignition to ON position and watch display. Do all segments light up?	YES	Test is finished. Mirror is functional.
	NO	Replace mirror head.

**PINPOINT TEST F: DISPLAY DOES NOT DIM AT NIGHT**

TEST	RESULT	ACTION
<b>F1:</b> Cover both forward and rear facing light sensor openings. Does display dim after 10 seconds?	YES	Test is finished. Mirror is functional.
	NO	Replace mirror head.

**PINPOINT TEST G: DISPLAY IS ALWAYS DIM**

TEST	RESULT	ACTION
<b>G1:</b> Are light sensor openings in front and back of mirror blocked?	YES	Remove blockage.
	NO	Replace mirror head.

**ADDITIONAL COMMENTS**

We welcome and encourage feedback regarding failure details. In addition to listing this information on the back of the repair order, we would appreciate any entries into the claim comments field. As an additional reminder, please remember to replace the "spring clip" included with the original mirror with the one found in each kit. Failure to perform this step may result in a loose mirror.