

# Anti Ice Panel

Icing Conditions Definition
<p><b>Icing conditions exist on the ground when:</b></p> <ul style="list-style-type: none"> <li>-OAT 6<sup>o</sup> or less (42<sup>o</sup>F), and 1 of the following:           <ul style="list-style-type: none"> <li>-Visible moisture</li> </ul> </li> <li>-OAT / Dew point within 3<sup>o</sup>C (5<sup>o</sup>F) (gnd or Flt)</li> <li>-Snow, slush, ice or standing water on taxiways</li> </ul> <p><b>Icing conditions exist in flight when:</b></p> <ul style="list-style-type: none"> <li>-TAT 6<sup>o</sup> or less(42<sup>o</sup>F), and 1 of the following:           <ul style="list-style-type: none"> <li>-Visible moisture</li> <li>-OAT / Dew point within 3<sup>o</sup>C (5<sup>o</sup>F) (gnd or Flt)</li> <li>-ICE DETECTED alert displayed (non auto A/I)</li> <li>-Visible ice accumulates on the aircraft</li> </ul> </li> </ul>

ENGINE ANTI-ICE Switch (1,2,3)
<p>Switch Opens and closes respective engine anti-ice shutoff valves.</p> <p><b>ON</b></p> <ul style="list-style-type: none"> <li>-Illuminates when anti ice is on.</li> </ul> <p><b>DISAG</b></p> <ul style="list-style-type: none"> <li>-Shutoff valve in transit, or remains illuminated if:</li> <li>-Disagreement between switch and valve.</li> </ul>

WING and TAIL ANTI-ICE Switches
<p>Opens and closes the wing / tail anti-ice shutoff valves</p> <p>Wing A/I uses Air Sys 1 &amp; 3 – Tail uses Air Sys 2</p> <p><b>ON</b></p> <ul style="list-style-type: none"> <li>-The respective switch is on</li> </ul> <p><b>DISAG</b></p> <ul style="list-style-type: none"> <li>-On the Ground: Valve is open regardless of switch position</li> <li>-In Flight: Valve is in transit, or disagreement between valve and switch position.</li> </ul>

ANTI-ICE SYSTEM Manual Switch (Auto A/I Acft Only)
<p>Pressing switch (MANUAL illum.) deselects the auto function, and allows pilot control of Eng, Wing and Tail Anti-Ice.</p> <p><b>Manual</b></p> <ul style="list-style-type: none"> <li>-System reverts from Auto to Manual due to a malfunction, or</li> <li>-System is pilot-selected to Manual.</li> </ul> <p>Note – Auto anti-ice is optional on MD-11s. If equipped with auto anti-ice, the system <b>MUST</b> be selected to <b>MANUAL</b> if the pilot wishes to override the auto function, and control anti-ice functions manually.</p>

<p>The Anti-Ice “System” refers to ENG, WING, TAIL and WINDSHIELD Anti-Ice. When anti-ice is required, these should all be ON.</p> <p>The primary method of ice detection is the Ice Detection System. If an ICE DETECTED alert is displayed, Anti-Ice must be turned on.</p> <p>If the aircraft is equipped with an operational Automatic Anti-Ice system, anti-ice will automatically engage when required</p>
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L / R WINDSHIELD ANTI-ICE Switch
<p>Switch turns power to the windshield anti-ice controller on / off</p> <p><b>ON</b></p> <ul style="list-style-type: none"> <li>- Anti-Ice is on (NORM or HIGH)</li> </ul> <p>Windshield Anti-Ice is not controlled by the automatic anti-ice system (if applicable), and must be manually turned on when icing conditions are anticipated or encountered.</p>

Windshield ANTI-ICE HIGH/NORM Switch
<p>Provides High or Normal heat to the windshield. Anti-Ice system defaults to NORM when powered.</p> <p><b>HIGH</b></p> <ul style="list-style-type: none"> <li>-Only used to deice windshield when NORM is insufficient</li> </ul>

<b>Memory Item</b>
<b>Engine 2 A/I duct – Engine 2 throttle idle</b>

WINDSHIELD DEFOG Switch
<p>Turns Low heat to inner windshield pane on or off</p> <p><b>OFF</b> (light extinguished)</p> <ul style="list-style-type: none"> <li>-Defog is commanded on</li> </ul> <p>Under normal conditions, Defog should always be on in flight. Defog automatically turns on when electric power is applied to the aircraft.</p>

GE Engine Procedures
<p>GE powered aircraft must have Engine ignition selected to OVRD ON while Anti Ice is on</p> <p>GE powered aircraft must have ENG IGN OVRD selected on, ECON switch selected off, and ENG, WING and TAIL Anti Ice switches selected on prior to thrust reduction for the descent if icing conditions are anticipated during the descent.</p> <p>Regardless of whether or not an ICE DETECTED alert is displayed, anti ice must be selected on if icing conditions are encountered during the descent with GE engines.</p>

Engine Run-up - GE
<p>When anti-ice is used during ground operations in icing conditions, perform an engine run -up of 60% N1 for 30 seconds prior to takeoff. This run -up should also be performed if anti-ice is used during ground operation for any period greater than 30 minutes, and repeated at intervals of no greater than 30 minutes.</p>

Engine Run-up – P&W
<p>When anti-ice is used during ground operations in icing conditions, perform a momentary engine run -up of (min) 50% N1 prior to takeoff. This run-up should also be performed at intervals of no greater than 15 minutes during ground operations with anti-ice on.</p>